HCD-D170/G1100

SERVICE MANUAL

US Model
HCD-D170/G1100
Canadian Model
HCD-D170

HCD-D170, HCD-G1100 is the tuner, deck, CD and amplifier section in LBT-D170, LBT-G1100.

Photo : HCD-D170

CD SECTION	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM37-5BD19
	Base Unit Type	BU-5BD19
	Optical Pick-up Type	KSS-213BA/S-N
TAPE DECK SECTION	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-YSW47C24

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
LBT-D170/LBT-G1100:
With 6 ohm loads, both channels driven, from 70 – 20,000 Hz; rated 20 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output: Max 44.6 µW*
* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength: 780 – 790 nm

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5 – 108.0 MHz (100 kHz step)
Antenna: FM wire antenna
Antenna terminals: 75 ohm unbalanced
Intermediate frequency: 10.7 MHz

AM tuner section

Tuning range: 530 – 1,710 kHz (with the AM tuning interval set at 10 kHz)
531 – 1,710 kHz (with the AM tuning interval set at 9 kHz)
Antenna: AM loop antenna
External antenna terminals
Intermediate frequency: 450 kHz

— Continued on next page —

MICROFILM

COMPACT DISC DECK RECEIVER

SONY®

Cassette deck section

Recording system
4-track 2-channel stereo
Frequency response
(DOLBY NR OFF)
60 – 13,000 Hz (±3 dB), using SONY TYPE I cassette
60 – 14,000 Hz (±3 dB), using SONY TYPE II cassette
Wow and flutter
0.1% WRMS ±0.3% (DIN)

Amplifier section

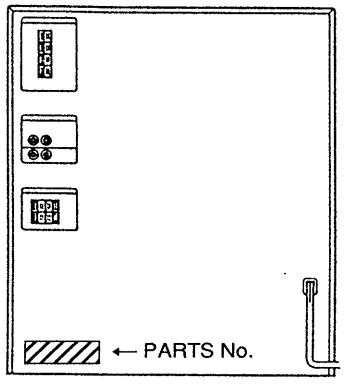
Continuous RMS power output:
20 W + 20 W (6 ohms at 1 kHz, 10% THD)
Inputs
VIDEO (AUDIO) (phono jack):
Sensitivity 300 mV, impedance 47 kilohms
Outputs
PHONES (phone jack)
accept headphones of 8 ohms or more.
SPEAKER:
accept impedance of 6 to 16 ohms

General

Power requirements
120 V AC, 60 Hz
Power consumption
65 W
Dimensions
Approx. 355 × 425 × 400 mm (14 × 16 3/4 × 15 3/4 inches) (w/h/d) incl. projecting parts and controls
Mass 8.9 kg (19 lb 10 oz)

Design and specifications subject to change without notice.

MODEL IDENTIFICATION
— BACK PANEL —



MODEL	PARTS No.
D170 : US model	4-978-187-0□
D170 : Canadian model	4-978-187-1□
G1100 : US model	4-978-187-8□

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

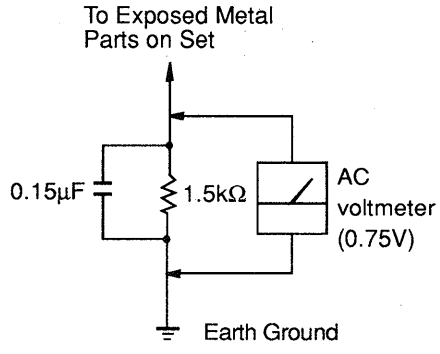


Fig. A. Using an AC voltmeter to check AC leakage.

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

[All lights of FL tube]

After the power supply is turned on, press [TUNER/BAND] button, [DISPLAY/DEMO] button and [FILE 2] button simultaneously to enter in the mode which the FL tube lights all. If you want to quit the mode, press the above buttons simultaneously again.

[Switching the channel step 9 KHz/10 KHz]

Press [ENTER/NEXT] button and [POWER] button simultaneously to switch the AM channel step 9 KHz and 10 KHz. Be sure not to change with carelessness.

TABLE OF CONTENTS

Section	Title	Page
SECTION 1. GENERAL		5
SECTION 2. DISASSEMBLY		
2-1.	Front Panel ASSY and Main Board	6
2-2.	TC Mechanism Deck	6
2-3.	CD Mechanism Deck	7
2-4.	BU Bracket ASSY	7
2-5.	Disc Table	8
SECTION 3. MECHANICAL ADJUSTMENTS		9
SECTION 4. ELECTRICAL ADJUSTMENTS		
DECK Section		9
TUNER Section		12
CD Section		13
SECTION 5. DIAGRAMS		
5-1.	Circuit Boards Location	15
5-2.	IC Pin Function	
	• IC501 Graphic Control (ASD042)	16
5-3.	Block Diagrams	
	• Tuner Section	17
	• Deck Section	19
	• CD Section	21
	• Main Section	23
5-4.	IC Block Diagrams — CD Section —	25
5-5.	Printed Wiring Board — CD Section —	27
5-6.	Schematic Diagram — CD Section —	29
5-7.	Printed Wiring Board — Main Section —	32
5-8.	Schematic Diagram — Main Section —	35
5-9.	Schematic Diagram — Deck Section —	39
5-10.	Schematic Diagram — Tuner Section —	43
5-11.	Printed Wiring Board — Tuner Section —	46
5-12.	Schematic Diagram — CD Motor Section —	47
5-13.	Printed Wiring Board — CD Motor Section —	47
5-14.	Schematic Diagram — Panel Section —	49
5-15.	Printed Wiring Board — Panel Section —	51
5-16.	IC Pin Function	
	• IC701 Master Control (TMP87CS64)	54
SECTION 6. EXPLODED VIEWS		
6-1.	Case and Back Panel Section	57
6-2.	Panel Board Section	58
6-3.	Front Panel Section	59
6-4.	Chassis Section	60
6-5.	TC Mechanism Section 1 (TCM-YSW47C24)	61
6-6.	TC Mechanism Section 2 (TCM-YSW47C24)	62
6-7.	TC Mechanism Section 3 (TCM-YSW47C24)	63
6-8.	CD Mechanism Section (CDM37-5BD19)	64
6-9.	Base Unit Section (BU-5BD19)	65
SECTION 7. ELECTRICAL PARTS LIST		66

SECTION 1
GENERAL

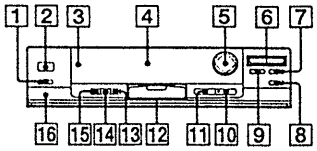
This section is extracted from instruction manual.

Index to Parts and Controls

Refer to the pages indicated in parentheses for details on how to use the controls.Front Panel

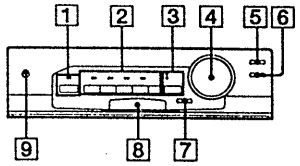
Tuner section

Refer to the pages indicated in parentheses for details on how to use the controls.



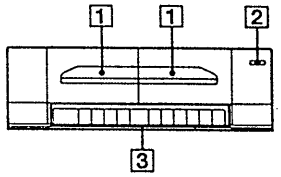
1 SLEEP button (18)
2 SYSTEM POWER switch (7)
3 Remote sensor
4 Display window (23)
5 CURSOR CONTROL buttons (6, 17, 19)
6 TUNING +/– buttons (11)
7 TUNER MEMORY button (12)
8 STEREO/MONO button (11)
9 TUNING MODE button (11)
10 ENTER/NEXT button (6, 12, 19)
11 DISPLAY/DEMO button (6, 8)
12 TUNER/BAND button (11)
13 DAILY 2 button (18)
14 DAILY 1 button (18)
15 TIMER SET button (19)
16 CLOCK SET button (6)

Amplifier section



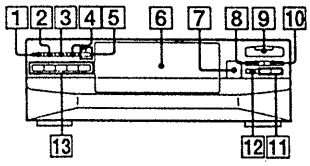
1 EFFECT button/indicator (16)
2 FILE 1 – 5 buttons/indicators (16)
3 FILE SELECT button/indicators (16, 17)
4 VOLUME control (7, 16, 19)
5 DBFB button (16)
6 S-SURROUND button (16)
7 EQ MEMORY button (17)
8 FUNCTION button (7, 14)
9 PHONES jack (16)

Tape player section



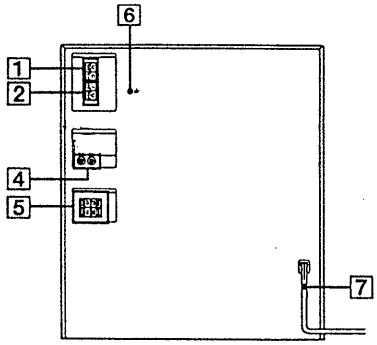
1 Cassette compartments (13)
2 DOLBY NR button (13)
3 Tape operating buttons
▷ (play) (13)
▷▷ (fast rightward) (13)
◁◁ (fast leftward) (13)
□/⏏ (stop/eject) (13)
○ (recording) (for deck B only) (13)
⏸ (pause) (13)

CD player section



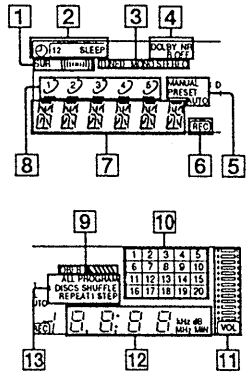
1 CONTINUE button (7)
2 SHUFFLE button (8)
3 PROGRAM button (9)
4 REPEAT button (9)
5 AUTO button/indicator (7)
6 Front cover (7)
7 ⏏ OPEN button (7)
8 ⏸ (pause) button (7)
9 ▷ (play) button (7)
10 □ (stop) button (7)
11 AMS ⏮◁◁/▷▷⏭ buttons (7, 15)
12 DISC SKIP button (7)
13 DISC 1 – 5 buttons (7)

Rear Panel



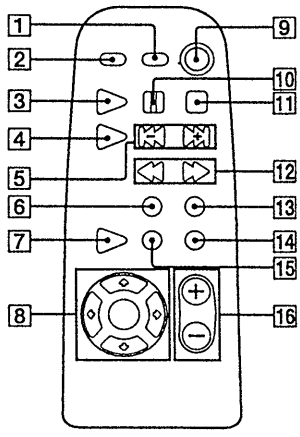
1 AM terminal (4)
2 FM 75Ω terminal (4)
4 VIDEO (AUDIO) IN jacks (19)
5 SPEAKER connectors (4)
6 ⏚ ground terminal (4)
7 AC power cord (5)

Display Window



1 SURROUND indication (16)
2 TIMER mode indications (18)
3 Tuner indication (11)
4 DOLBY NR B indication (13)
5 AUTO/MANUAL/PRESET indications (12)
6 REC indication (14)
7 Band/disc/track/sound frequency range indications (11)
8 Disc calendar/playing position indicator (7)
9 DBFB indication (16)
10 Music calendar (7)
11 VOLUME indication (16, 19)
12 Radio frequency/playing time/sound frequency level indications (7, 11, 17)
13 CD play mode indicators (7)

Remote



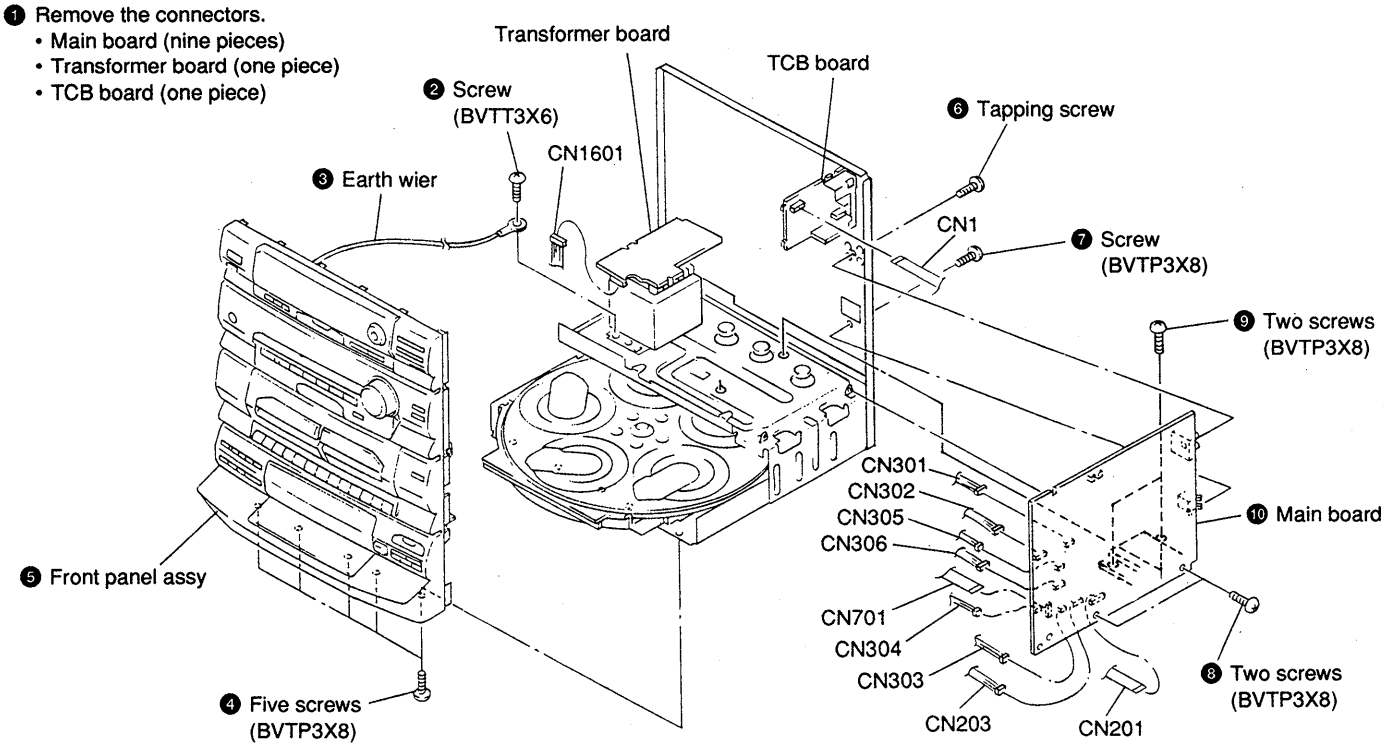
1 SLEEP button (18)
2 LOOP button (10)
3 CD ▷ (play) button (7)
4 TUNER/BAND ▷ button (11)
5 ⏭/⏮ buttons (7, 12, 15)
6 CHECK button (9)
7 FUNCTION button (7, 14)
8 MUSIC MENU buttons (16)
9 POWER button (7)
10 ⏸ (pause) button (7)
11 □ (stop) button (7)
12 ◁ / ▷ buttons
13 EDIT button (14)
14 DISC SKIP button (7)
15 CLEAR button (9)
16 VOL (volume) +/– buttons (7, 16, 19)

SECTION 2

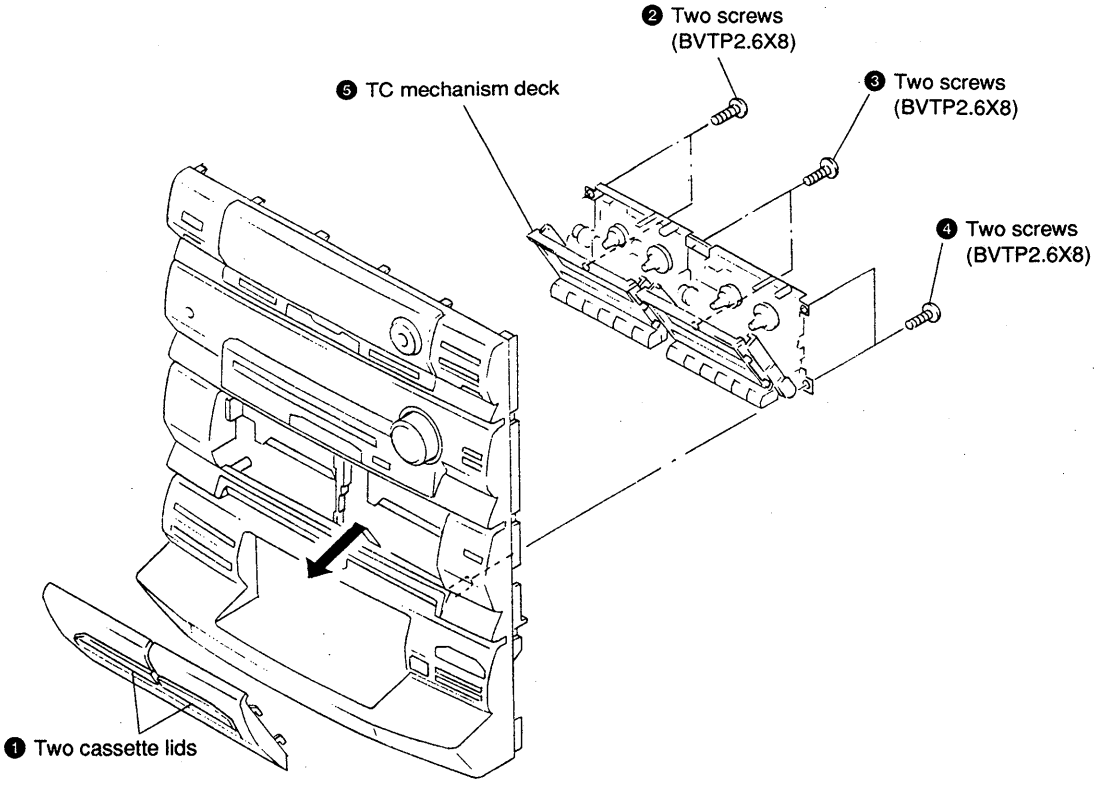
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

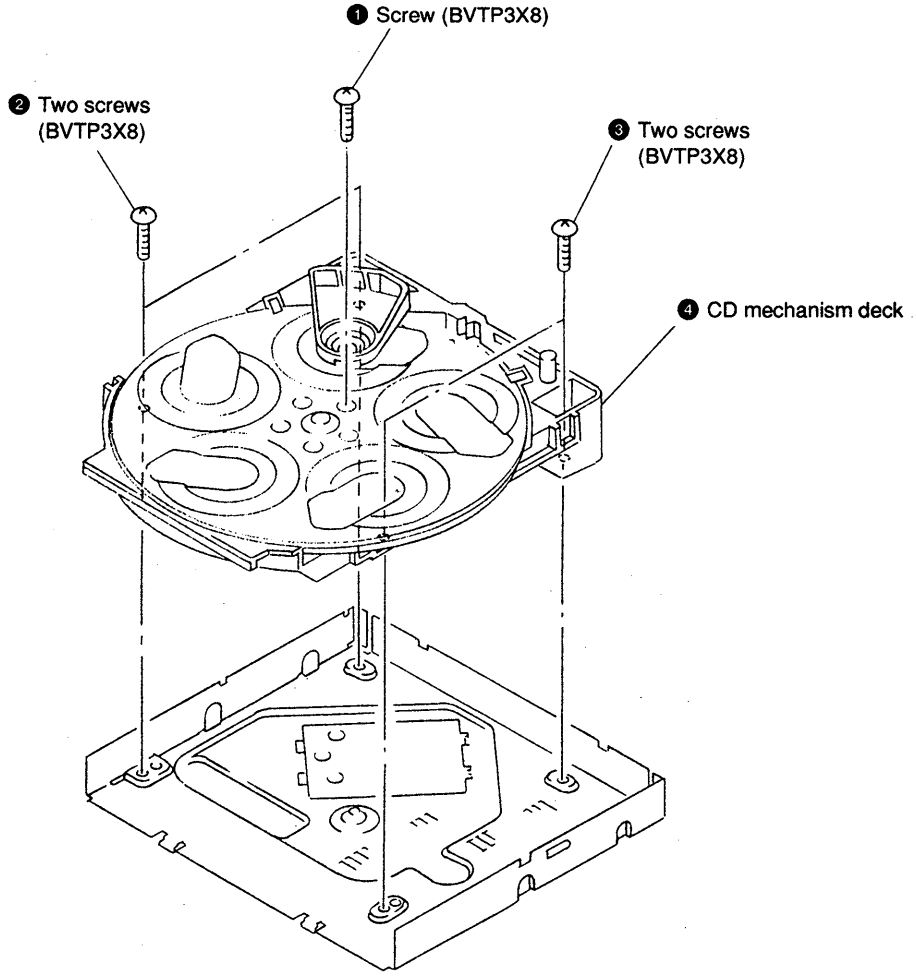
2-1. FRONT PANEL ASSY AND MAIN BOARD



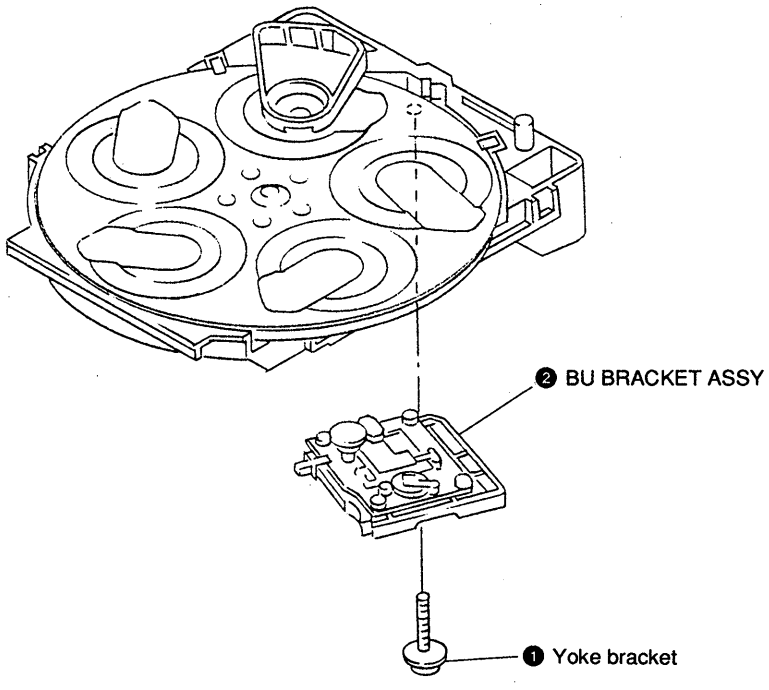
2-2. TC MECHANISM DECK



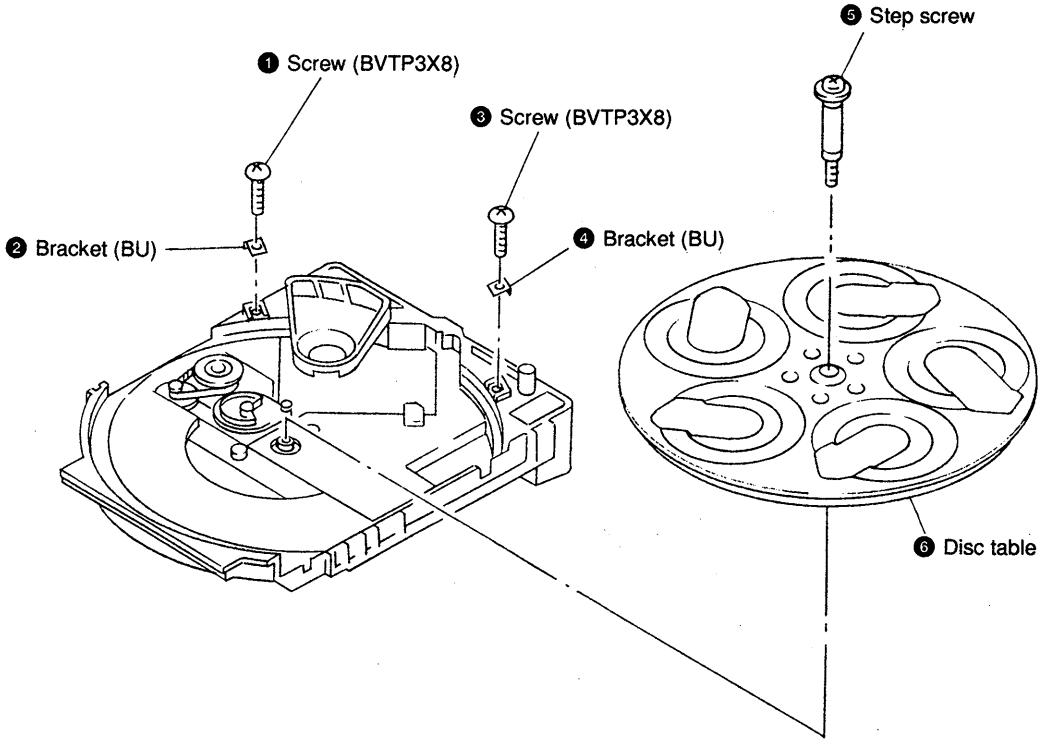
2-3. CD MECHANISM DECK



2-4. BU BRACKET ASSY



2-5. DISC TABLE



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :
   record/playback heads — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Mesurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	30 to 80g • cm
FWD back tension	CQ-102C	1.5 to 5.5g • cm
FF/REW	CQ-201B	55 to 130g • cm
FWD tension	CQ-403A	1kg • cm or more

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION | **0 dB=0.775V**

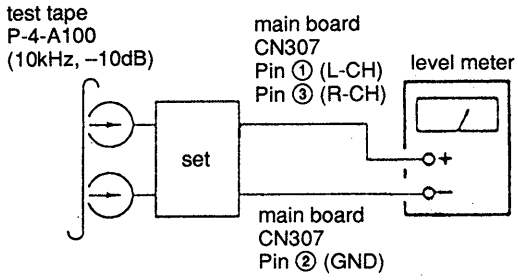
1. Demagnetize the record/playback head with a head damagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-ch.
7. Switches and controls should be set as follows unless otherwise specified.

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

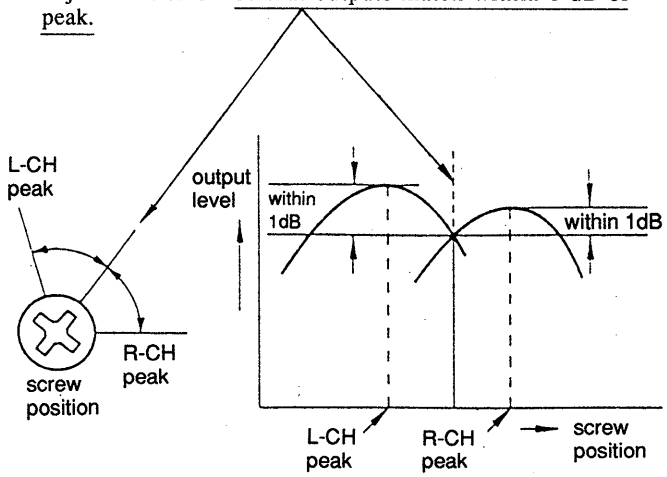
Record/Playback Head Azimuth Adjustment

DECK A | **DECK B**

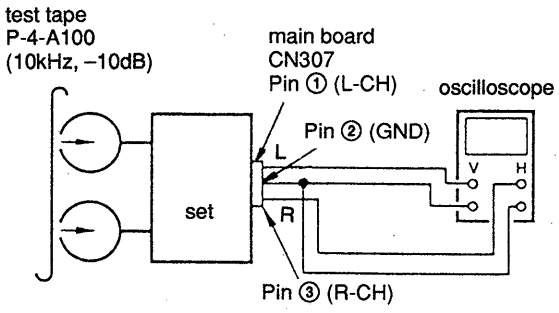
Note : Perform this adjustments for both decks.
Procedure :
1. Mode : Playback

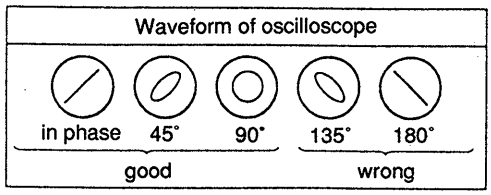


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



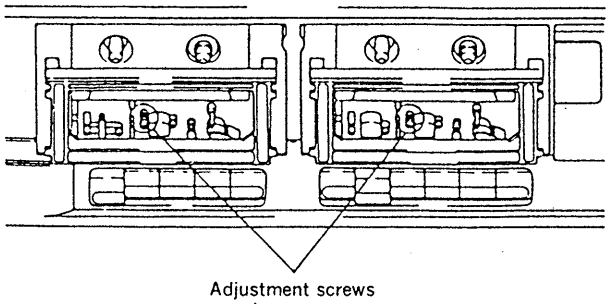
3. Mode : Playback





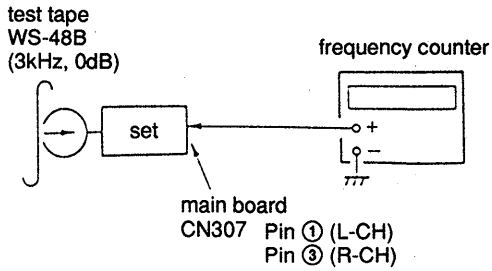
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location :



Tape Speed Adjustment DECK A DECK B

Procedure :
Mode : Playback

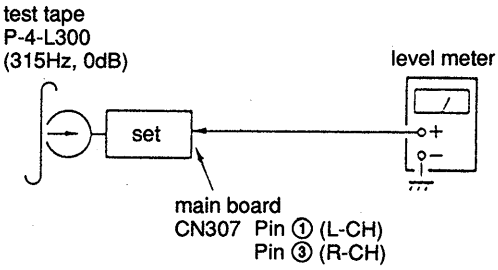


1. Insert the WS-48B to the deck B, and playback.
2. Adjust the RV380 so that the reading of the frequency counter will become 3000 ± 10 Hz.
3. Stop the deck B, and insert the WS-48B to the deck A, playback. Be sure to check that the difference of the frequency compared with the deck B becomes within +2% and –0.5%.
4. Insert the CS-123 (blank tape) to the deck A and insert the WS-48B to the deck B, then playback them simultaneously. Be sure to check that the reading of the deck B's frequency counter becomes 3000 ± 50 Hz.

Adjustment Location : main board

Playback Level Adjustment DECK A DECK B

Procedure :
Mode : Playback



Deck A is RV301 (L-CH) and RV401 (R-CH),
Deck B is RV302 (L-CH) and RV402 (R-CH)
so that adjustment within adjustment level as follows.

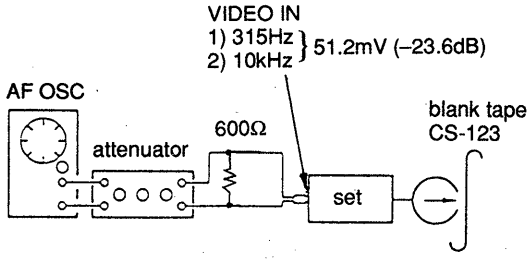
Adjustment level :
CN307 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB)
level difference between the channels: within ±0.5 dB

Adjustment Location : main board

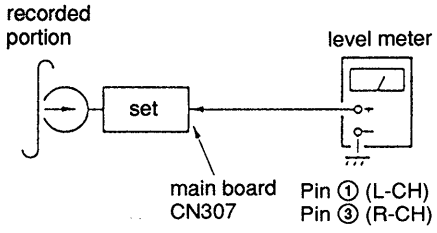
Record Bias Current Adjustment DECK B

Procedure :

1. Mode : record



2. Mode : Playback



Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV304 (L-CH) and RV404 (R-CH) on the main board to repeat steps 1 and 2.

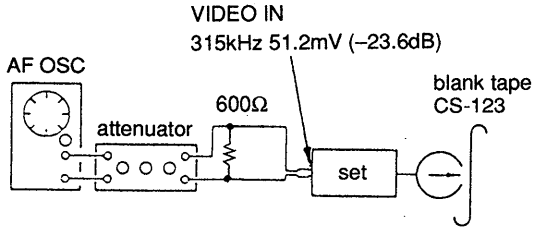
Adjustment level : Playback output of 315 Hz to playback output of 10 kHz : 0±0.5 dB

Adjustment Location : main board

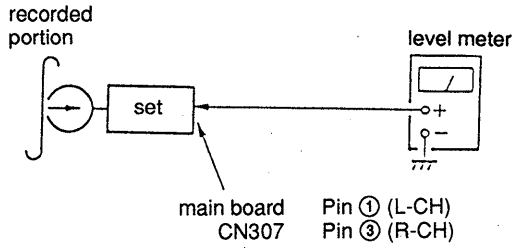
Record Level Adjustment DECK B

Procedure :

1. Mode: record



2. Mode: Playback



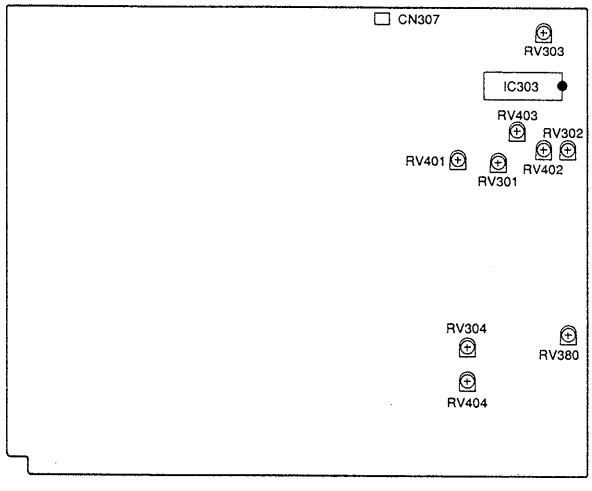
Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV303 (L-CH) and RV403 (R-CH) on the main board to repeat steps 1 and 2.

Adjustment level :

CN307 PB level : 47.3 to 53.1 mV (–24.3 to –23.3 dB)

Adjustment Location :

[MAIN BOARD] (Component Side)

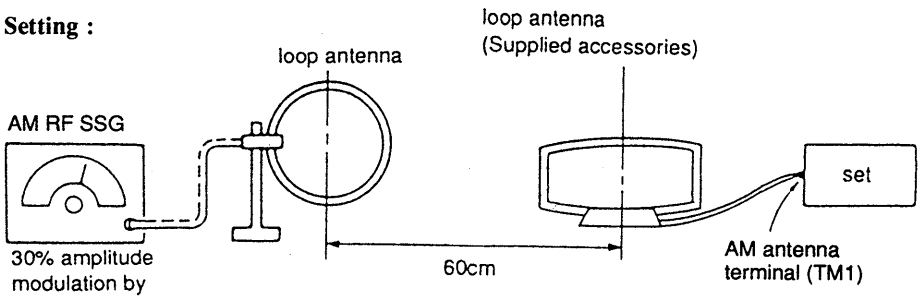


TUNER SECTION | **0dB=1μV**

Note : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

AM Section Adjustment

Setting :



Field strength dB (μV/m) = SSG output level dB (μV/m) −26dB.

AM Tuned Level Adjustment

Band : AM

Procedure :

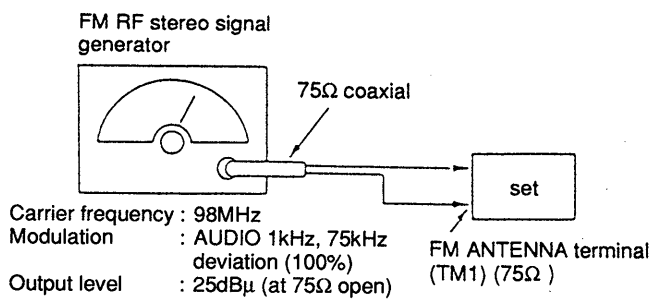
1. Set the output of SSG so that the input level of the set becomes 55 dBμ.
2. Tune the set to 1,050 kHz.
3. Adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location : TCB board

FM Section Adjustment

Note : This adjustment should be performed after the AM Tuned Level Adjustment due to the same adjustment element.

Setting :



FM Tuned Level Adjustment

Band : FM

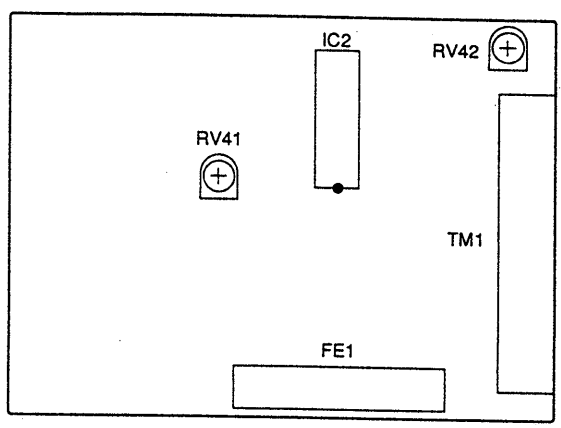
Procedure :

1. Supply a 25dBμ 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. If the TUNED indicator does not light, adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location : TCB board

Adjustment Location :

[TCB BOARD] (Component Side)

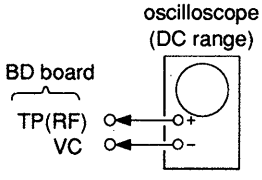


CD SECTION

Note :

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Adjust the focus bias adjustment when optical block is replaced.

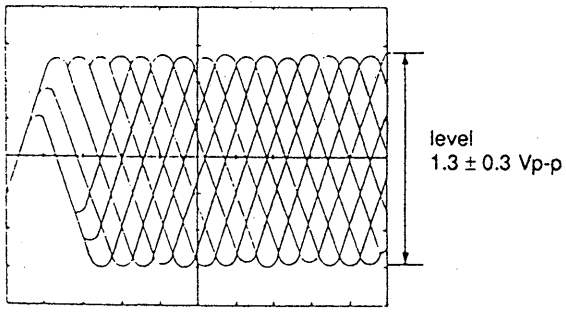
Focus Bias Adjustment



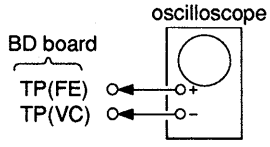
Procedure:

1. Connect oscilloscope to test point TP (RF). (GND terminal : VC)
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Adjust RV101 so that the waveform is clear.
   (Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.)
5. After adjustment, check the RF signal level.

• RF signal
VOLT/DIV : 200 mV
TIME/DIV : 500 nS



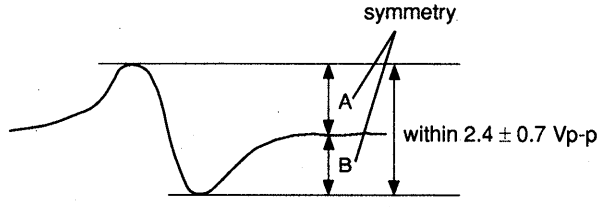
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3.8±1.1 Vp-p.

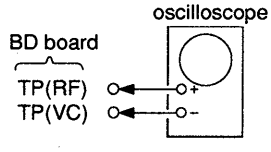
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



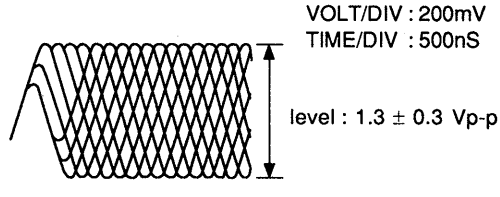
Procedure :

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

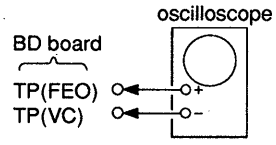
Note :

Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform

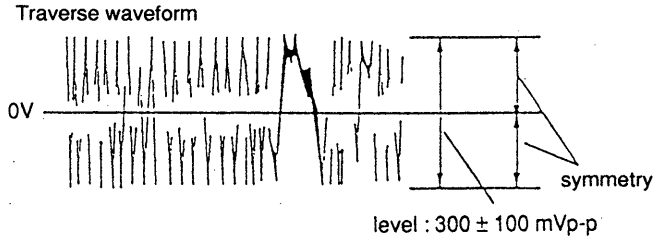


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) on Main board to GND with a lead wire.
2. Connect oscilloscpe to test point TP (TEO).
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0Vdc, and check this level.



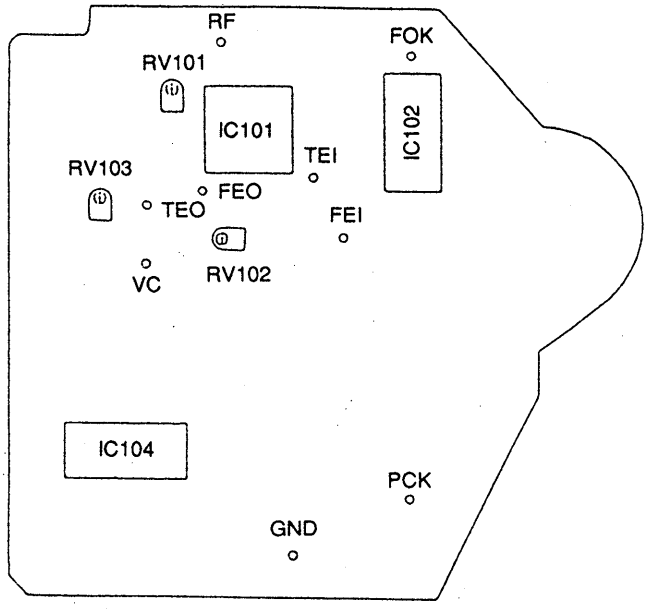
6. Remove the lead wire connected in step 1.

Focus/Tracking Gain Adjustment (RV102, RV103)

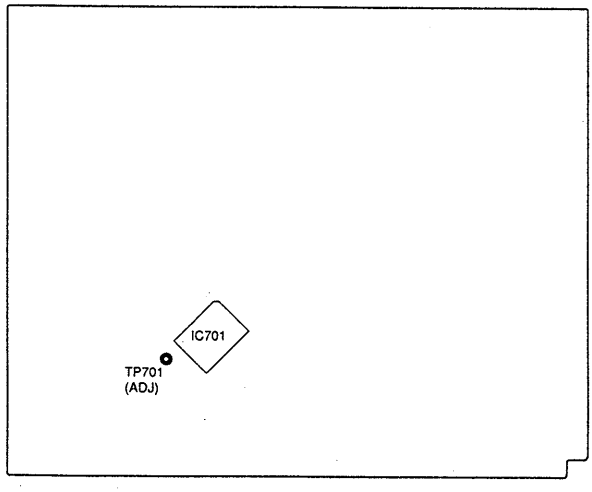
This gain has a margin, so even if it is slightly off.
There is no problem.
Therfore, do not perform this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[BD BOARD] (Conductor Side)

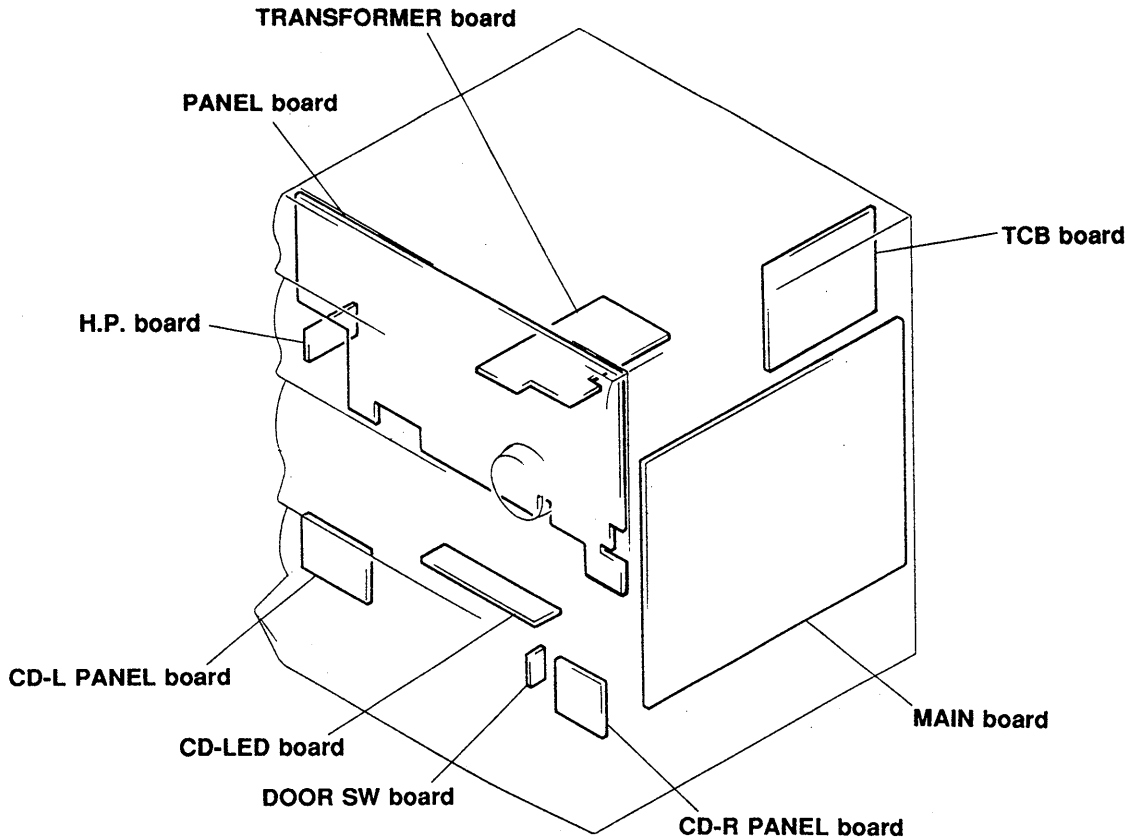


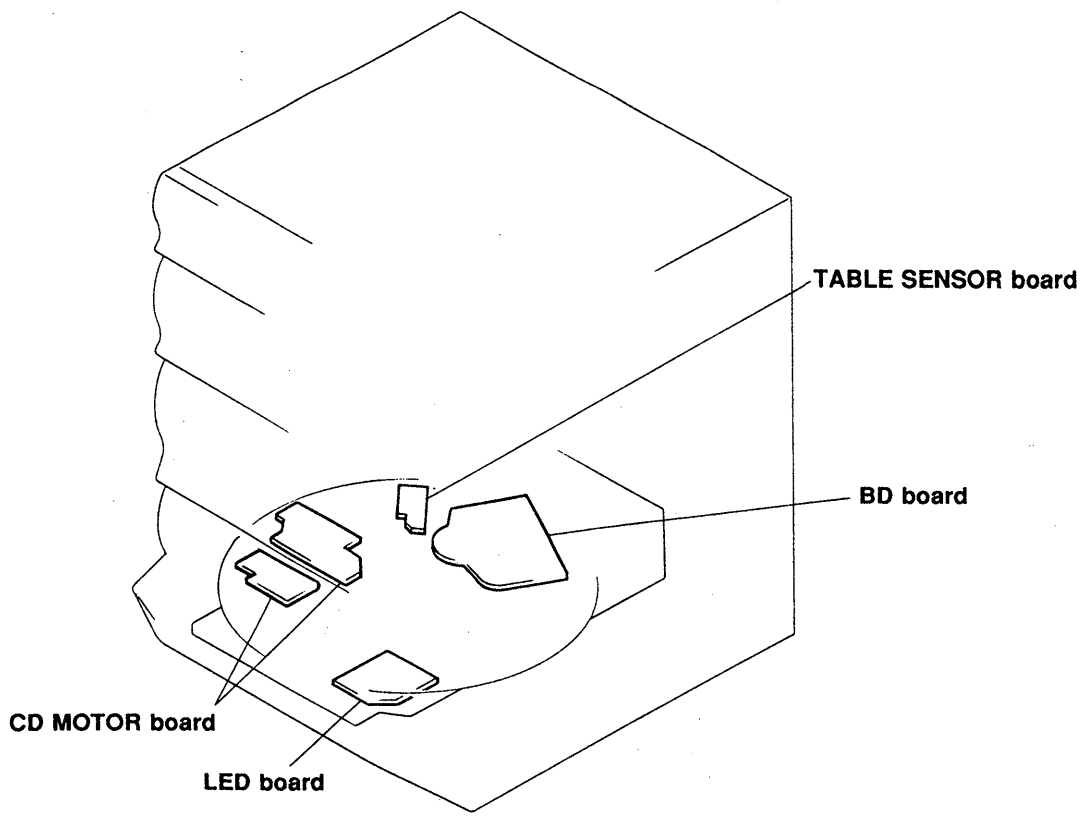
[MAIN BOARD] (Conductor Side)



SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION





5-2. IC PIN FUNCTION (IC501)

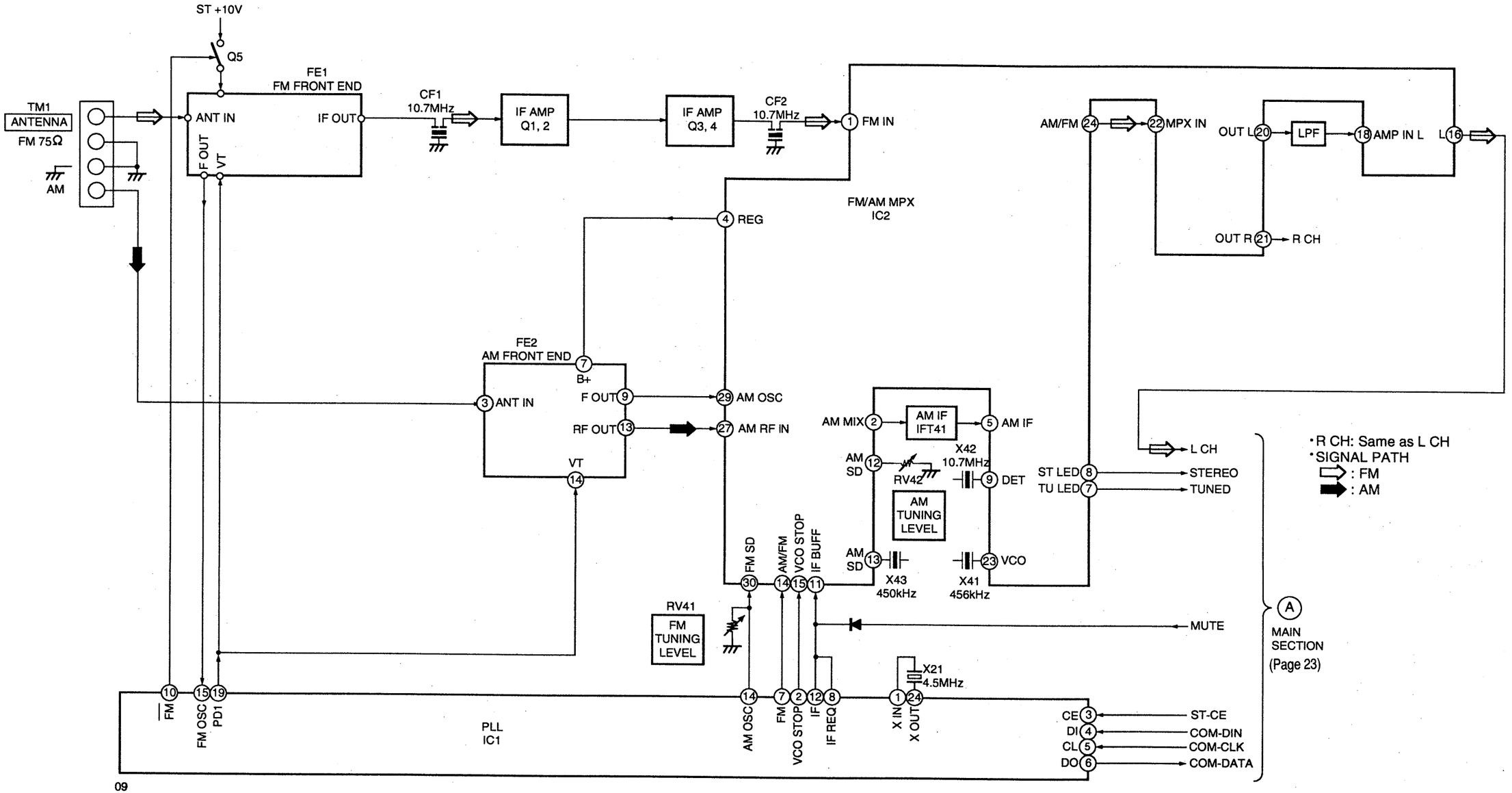
- **IC501 GRAPHIC CONTROL (ASD042)**

Pin No.	Pin Name	I/O	Function
1–7	GR1–7	O	FL grid signal output.
8	V_{DD}	–	+5V
9, 10	LED9, 10	O	LED drive signal output.
11	KEY SELECT	O	Not used.
12	VOL IN B	I	Volume encoder signal input.
13	REQ. GM	I/O	Reguest signal from/to master control.
14	CLK MG	I	Serial clock input.
15	DATA GM	O	Serial data output.
16	DATA MG	I	Serial data input.
17	RESET	I	Reset signal input.
18	PANEL SW	I	CD door open detection input.
19	LED SELECT	O	LED select signal output.
20	AVss	–	GND
21–24	SPEANA IN1–4	I	Spectram analizer signal input. (Connected to GND)
25–28	KEY IN1–4	I	Key matrix input.
29	AV_{DD}	–	} +5V
30	AV_{REF}	–	
31	JOG IN B	I	Not used. (Pull down)
32	XT2	I	Not used.
33	Vss	–	GND
34	X1	I	} X'tal (5 MHz).
35	X2	O	
36–39	LED5–8	O	LED drive signal output.
40, 41	LED3, 4	O	Not used.
42, 43	LED1, 2	O	LED drive signal output.
44	VOL IN A	I	Volume encoder signal input.
45	JOG IN A	I	Not used. (Pull down)
46	RDY MG	I	RDY signal from master control.
47	SIRCS IN	I	SIRCS signal input.
48	IC (VPP)	–	GND
49, 50	LEDS12, 13	O	Not used. (Pull up)
51	LEDS11	O	LED drive signal output.
52	V_{DD}	–	Not used.
53–70	SEG5–22	O	FL segment signal output.
71	V. LOAD	–	–25V for FL
72–75	SEG1–4	O	FL segment signal output.
76–80	GR8–12	O	FL grid signal output.

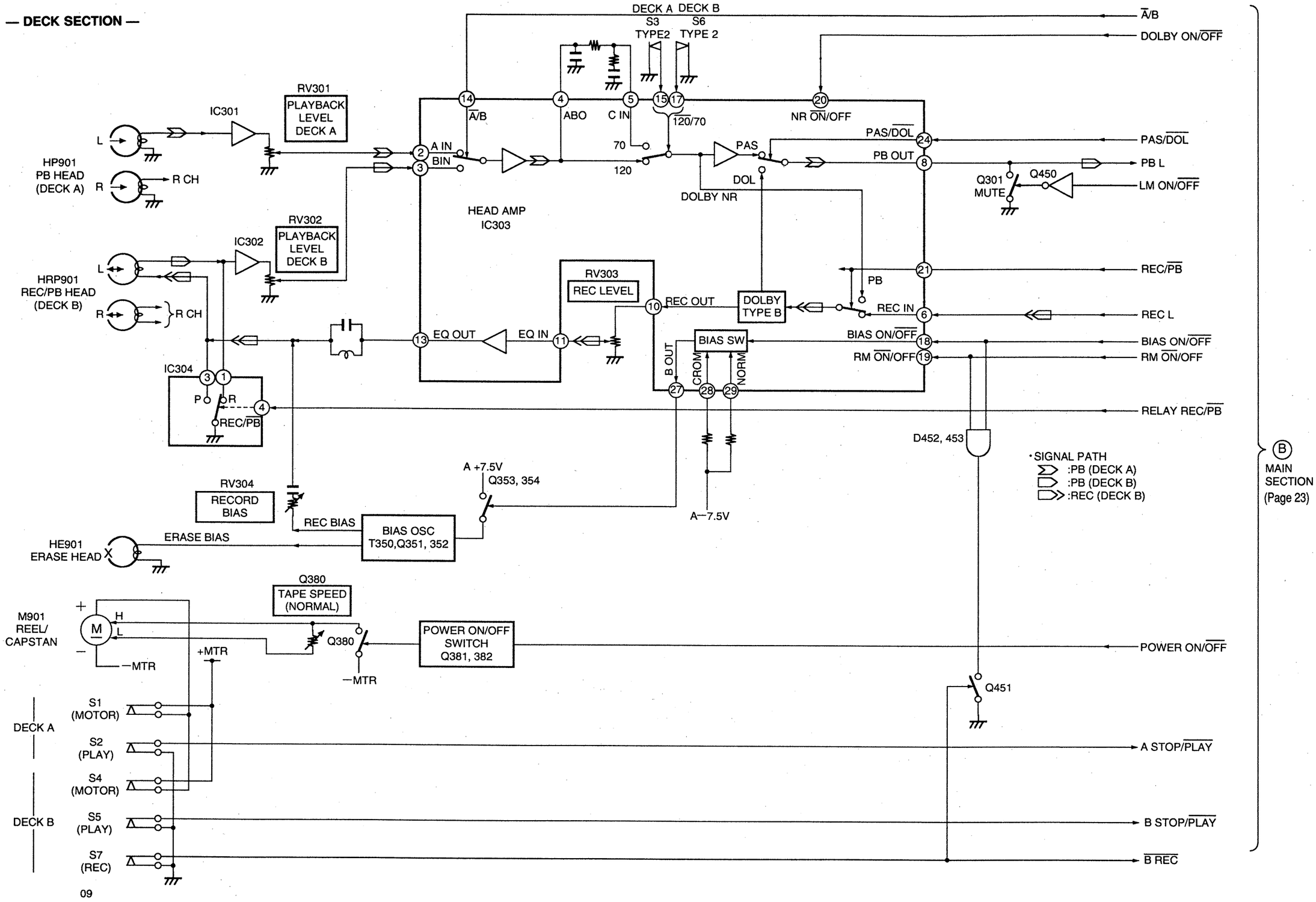
- Abbreviation
  FL : FLUORESCENT INDICATOR TUBE

5-3. BLOCK DIAGRAMS

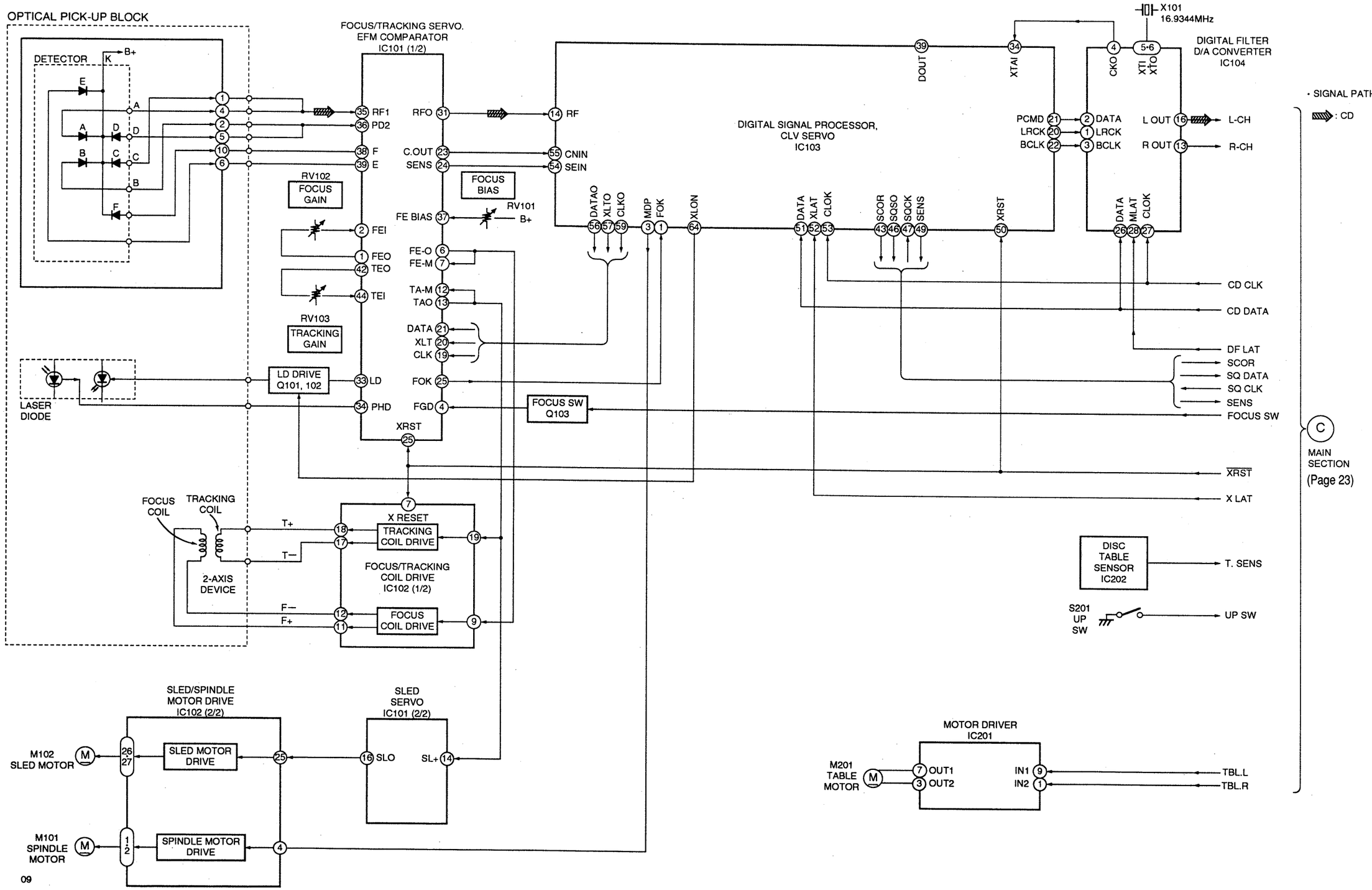
— TUNER SECTION —



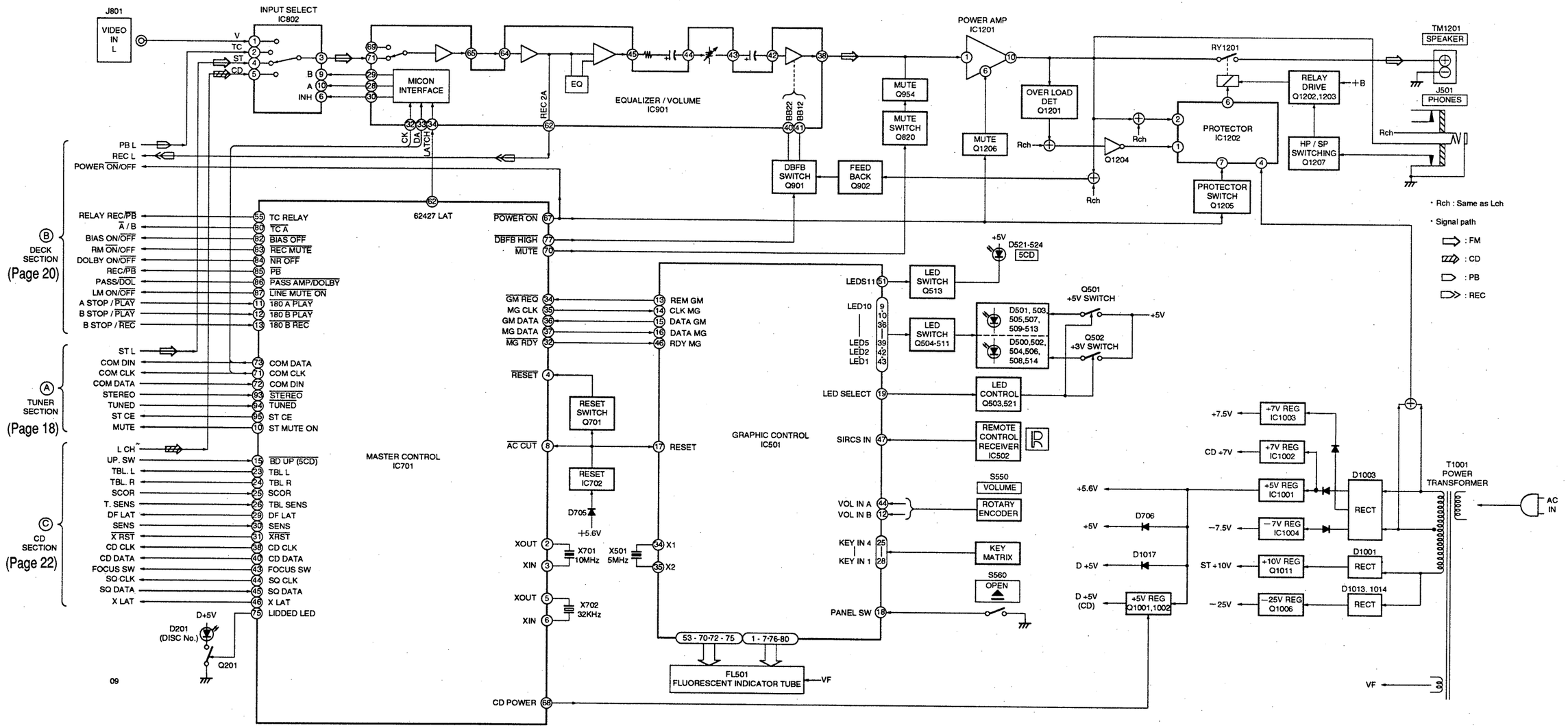
— DECK SECTION —



— CD SECTION —

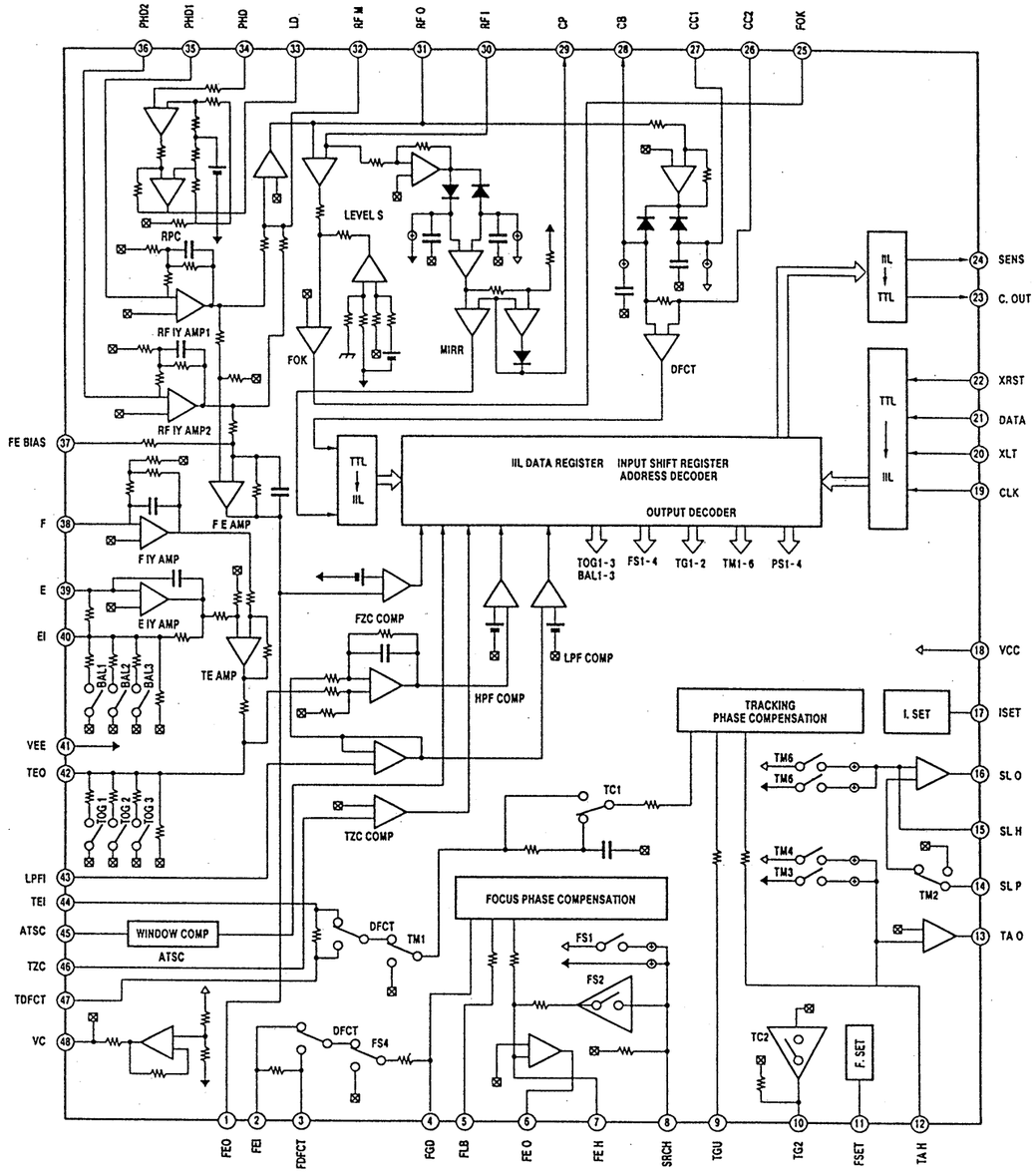

OPTICAL PICK-UP BLOCK
DETECTOR
B+
K
E
A
D
B
C
F
FOCUS COIL
TRACKING COIL
2-AXIS DEVICE
LASER DIODE
FOCUS/TRACKING SERVO. EFM COMPARATOR IC101 (1/2)
RF1
PD2
F
E
RV102 FOCUS GAIN
FEI
FEO
TEO
TEI
RV103 TRACKING GAIN
LD DRIVE Q101, 102
LD
PHD
RFO
C.OUT
SENS
FOCUS BIAS
RV101
B+
FE BIAS
FE-O
FE-M
TA-M
TAO
DATA
XLT
CLK
FOK
FGD
FOCUS SW Q103
XRST
X RESET
TRACKING COIL DRIVE
FOCUS/TRACKING COIL DRIVE IC102 (1/2)
FOCUS COIL DRIVE
T+
T−
F−
F+
RF
CNIN
SEIN
DATAO
XLTO
CLKO
MDP
FOK
XLON
DOUT
XTAI
X101
16.9344MHz
CKO
XTI
XTO
DIGITAL FILTER D/A CONVERTER IC104
DIGITAL SIGNAL PROCESSOR, CLV SERVO IC103
PCMD
LRCK
BCLK
DATA
LRCK
BCLK
L OUT
R OUT
L-CH
R-CH
DATA
XLAT
CLOK
SCOR
SQSO
SQCK
SENS
DATA
MLAT
CLOK
CD CLK
CD DATA
DF LAT
SCOR
SQ DATA
SQ CLK
SENS
FOCUS SW
XRST
X LAT
DISC TABLE SENSOR IC202
T. SENS
S201 UP SW
UP SW
SLED/SPINDLE MOTOR DRIVE IC102 (2/2)
SLED SERVO IC101 (2/2)
M102 SLED MOTOR
SLED MOTOR DRIVE
SLO
SL+
M101 SPINDLE MOTOR
SPINDLE MOTOR DRIVE
MOTOR DRIVER IC201
M201 TABLE MOTOR
OUT1
OUT2
IN1
IN2
TBL.L
TBL.R
• SIGNAL PATH
: CD
C
MAIN SECTION
(Page 23)
09

— MAIN SECTION —

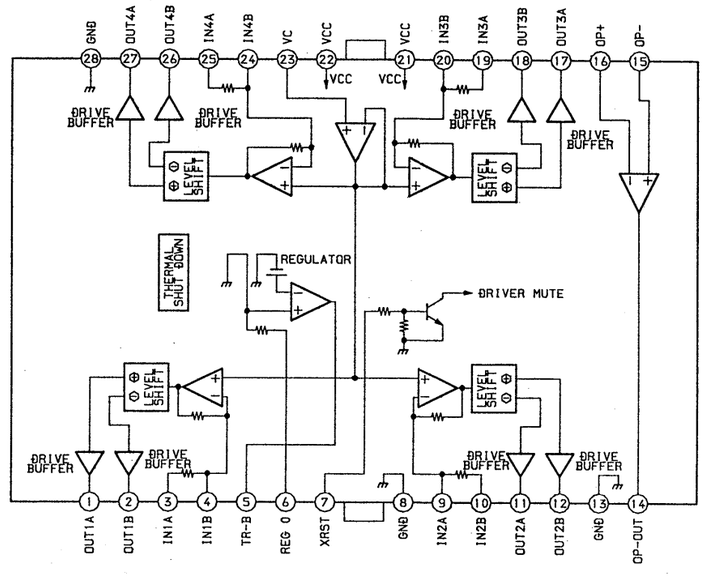


5-4. IC BLOCK DIAGRAMS — CD SECTION —

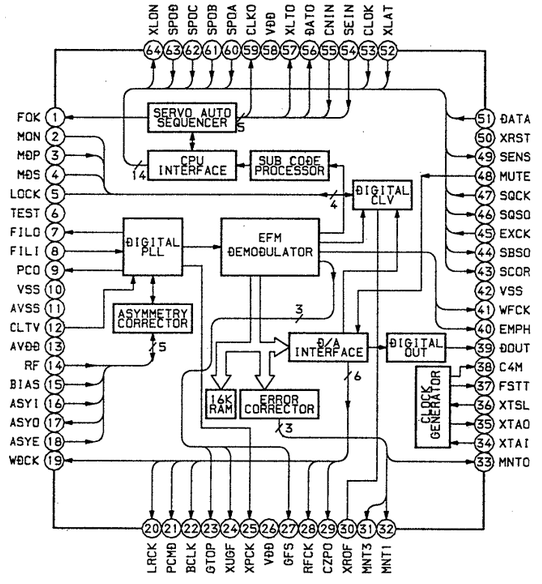
IC101 CXA1782BQ



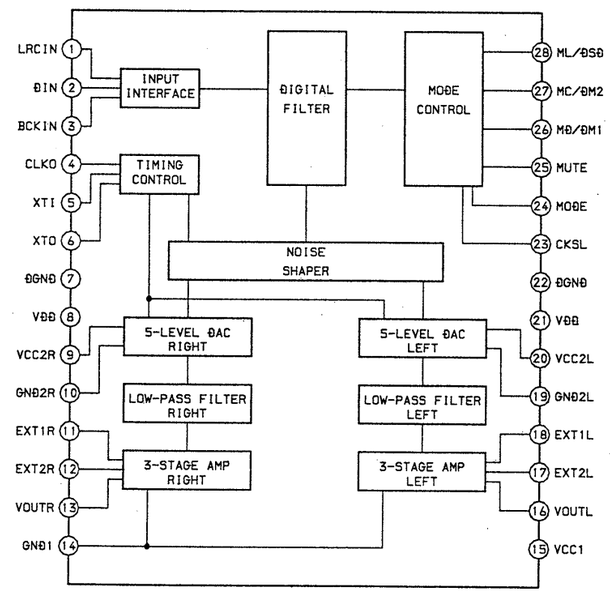
IC102 BA6397FP



IC103 CXD2507AQ



IC104 PCM1710U



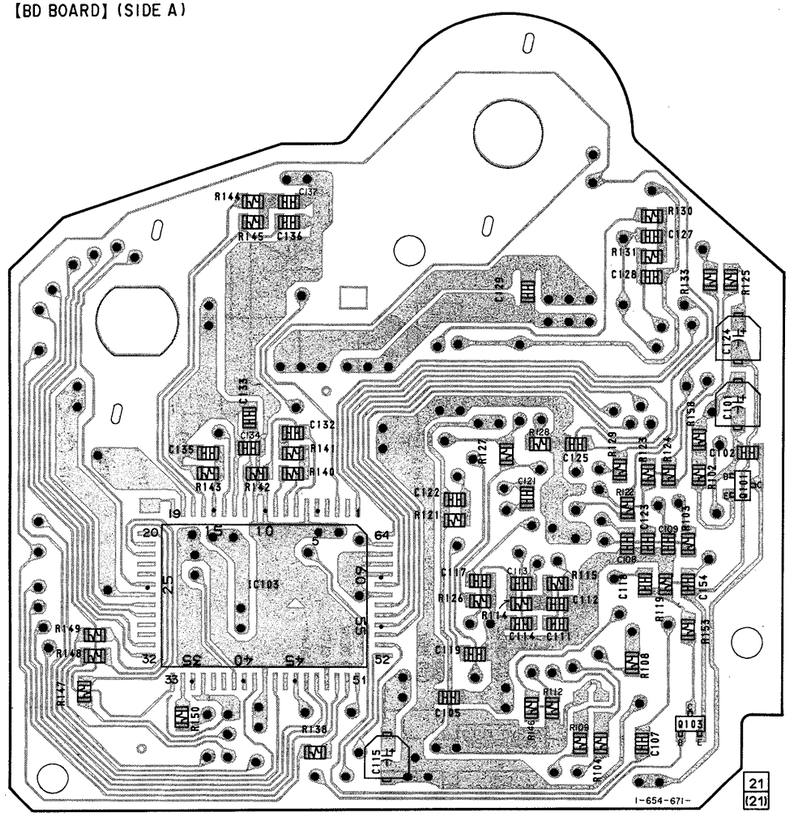
5-5. PRINTED WIRING BOARD — CD SECTION —

• See page 15 for Circuit Boards Location.

• **Semiconductor Location**

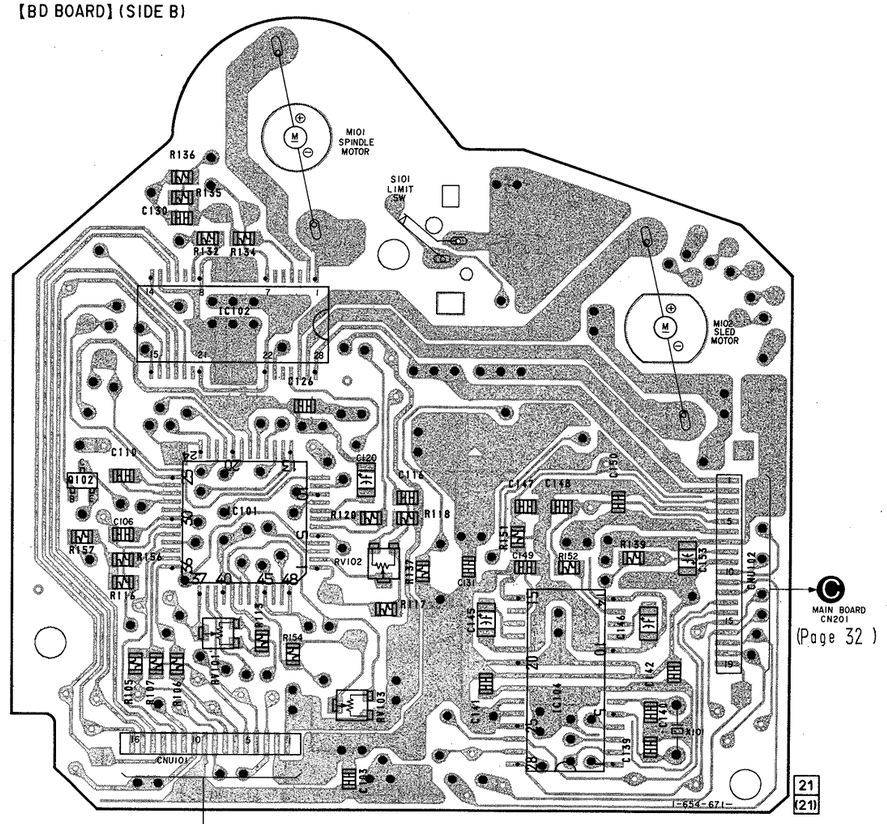
Ref. No.	Location
IC101	E-9
IC102	C-8
IC103	E-3
IC104	F-11
Q101	D-6
Q102	D-7
Q103	F-6

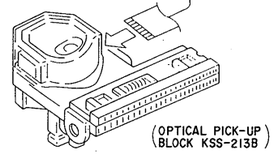
【BD BOARD】(SIDE A)



09

【BD BOARD】(SIDE B)



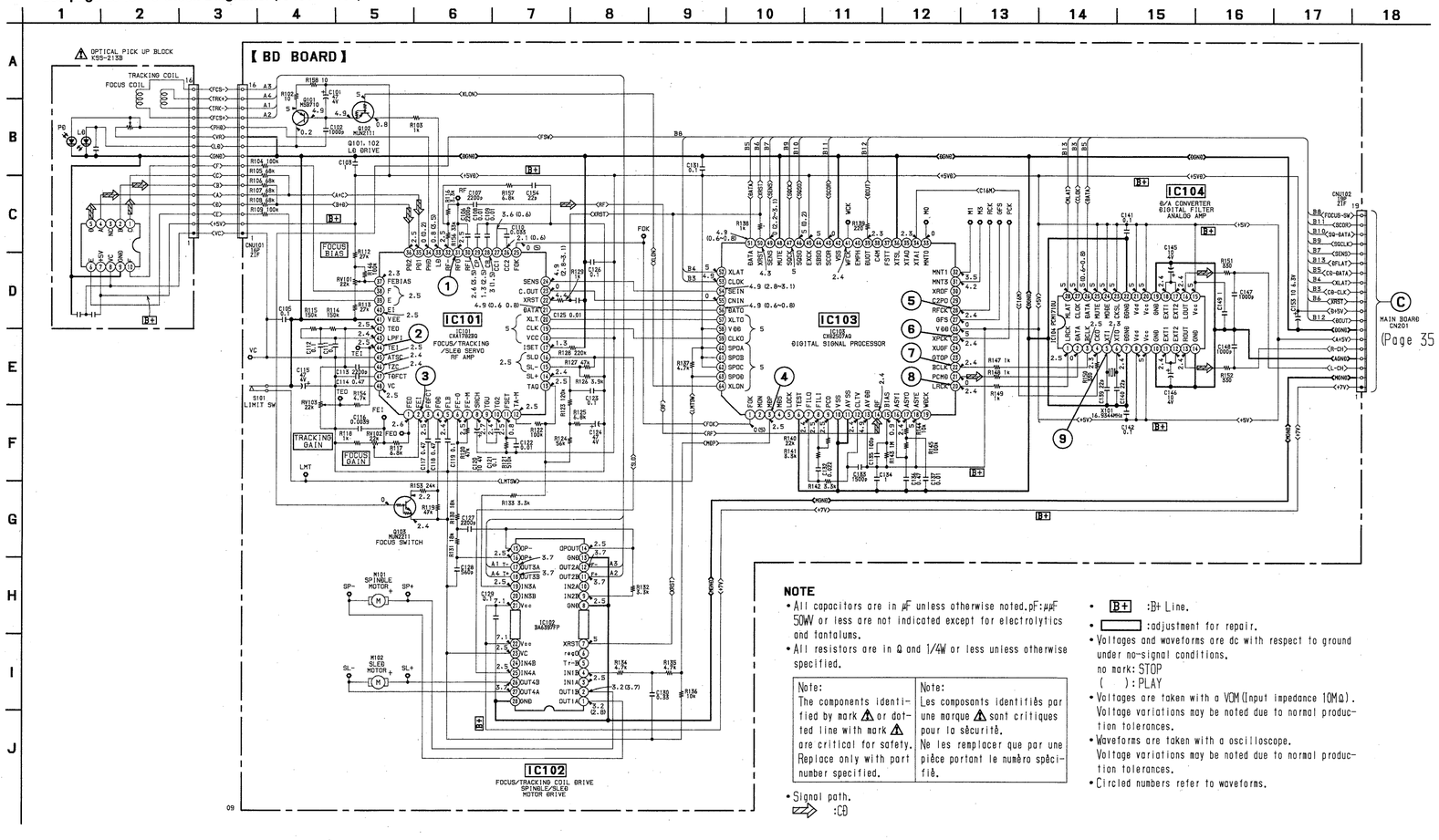


Note:

- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

5-6. SCHEMATIC DIAGRAM — CD SECTION —

• See page 25 for IC Block Diagrams. (IC101 — 104)



NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Signal path. ⇨ :CD
- B+ :B+ Line.
- ▭ :adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: STOP
  ( ): PLAY
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

• **Waveforms**

① IC101 ㉛ pin 1.4Vp-p

⑥ IC103 ㉕ pin 5.1Vp-p 232.7sec

② IC101 ㊹ pin 8mVp-p 0.2ms/DIV

⑦ IC103 ㉒ pin 5.1Vp-p 472.7nsec

③ IC101 ② pin 20mVp-p 2ms/DIV

⑧ IC103 ㉘ pin 5.1Vp-p 23μsec

④ IC103 ③ pin 2.4Vp-p 7.5μsec

⑨ IC104 ⑤ pin 3Vp-p 16.9344MHz

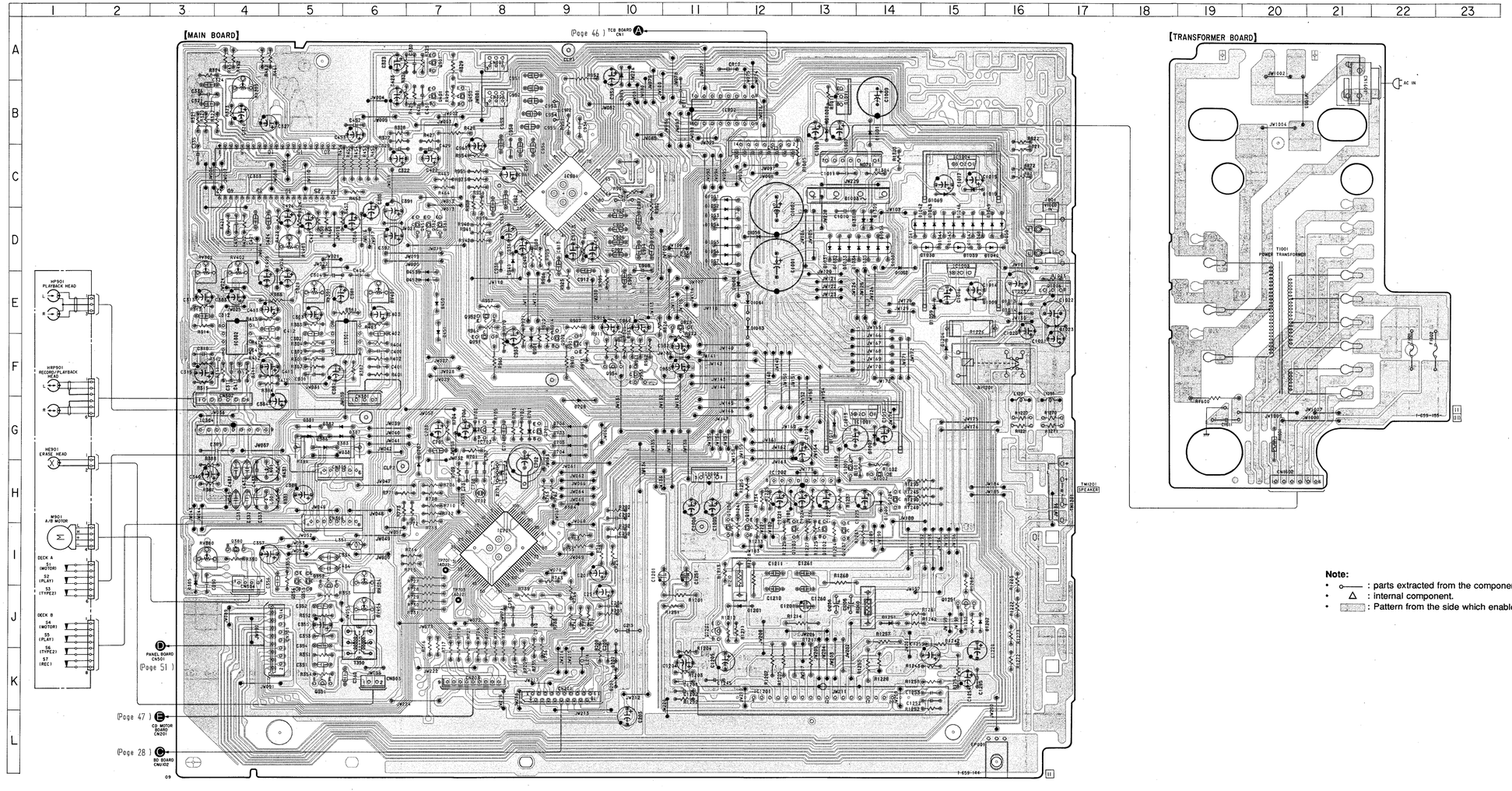
⑤ IC103 ㉘ pin 5.1mVp-p 137μsec

5-7. PRINTED WIRING BOARD — MAIN SECTION —

• See page 15 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D201	K-10	D1058	D-12
D202	K-10	D1059	E-15
D381	G-5	D1060	E-12
D382	G-5	D1061	E-12
D383	G-5	D1062	D-14
D384	H-9	D1063	E-12
D385	I-3	D1069	C-15
D386	G-5	D1201	J-12
D387	G-6	D1202	J-16
D450	E-7	D1204	K-15
D451	E-7	D1205	H-14
D452	E-7	D1251	J-14
D453	D-7	D1309	D-14
D701	G-8	D1310	D-13
D702	G-8		
D703	G-9	IC301	E-5
D704	G-9	IC302	F-4
D705	G-9	IC303	C-4
D706	G-9	IC304	G-3
D707	G-7	IC701	I-8
D708	G-9	IC702	G-8
D901	F-8	IC802	B-11
D939	B-10	IC901	C-9
D940	D-8	IC1001	G-14
D1001	B-14	IC1002	H-11
D1003	C-13	IC1003	D-15
D1007	G-14	IC1004	C-15
D1008	B-13	IC1201	K-12
D1009	E-16	IC1202	H-12
D1010	C-16		
D1013	E-16	Q301	A-7
D1014	E-16	Q351	K-5
D1017	G-13	Q352	I-5
D1023	E-17	Q353	J-5
D1031	D-13	Q354	J-5
D1032	D-13	Q380	I-4
D1033	D-13	Q381	D-7
D1034	D-13	Q382	D-7
D1035	D-14	Q401	B-7
D1036	D-14	Q450	B-7
D1037	D-14	Q451	D-7
D1038	D-15	Q701	G-9
D1039	D-15	Q820	E-11
D1040	D-16	Q901	F-9
D1041	D-14	Q902	F-9
D1042	D-14	Q951	F-8
D1043	D-5	Q952	E-7
D1044	D-15	Q953	F-10
D1045	D-15	Q954	F-10
D1046	D-15	Q1001	H-13
D1047	D-15	Q1002	H-14
D1048	D-15	Q1006	E-17
D1049	D-16	Q1011	B-13
D1050	D-16	Q1201	J-11
D1051	C-11	Q1202	I-13
D1052	C-11	Q1203	I-13
D1053	D-11	Q1204	H-14
D1054	D-11	Q1205	H-12
D1055	D-11	Q1206	H-11
D1056	D-11	Q1207	I-13
D1057	D-11	Q1251	J-15

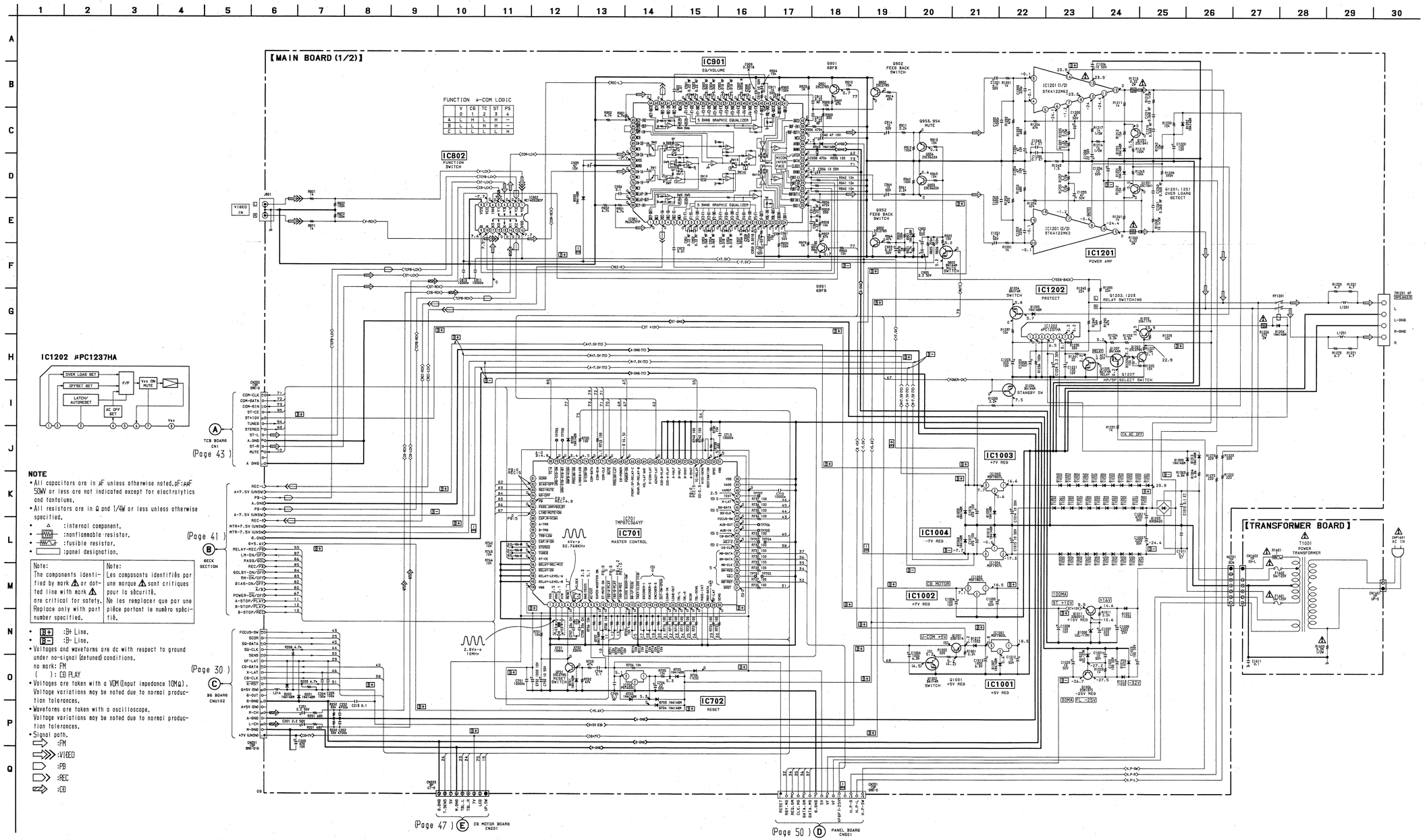


Note:

- ○—— : parts extracted from the component side.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing.

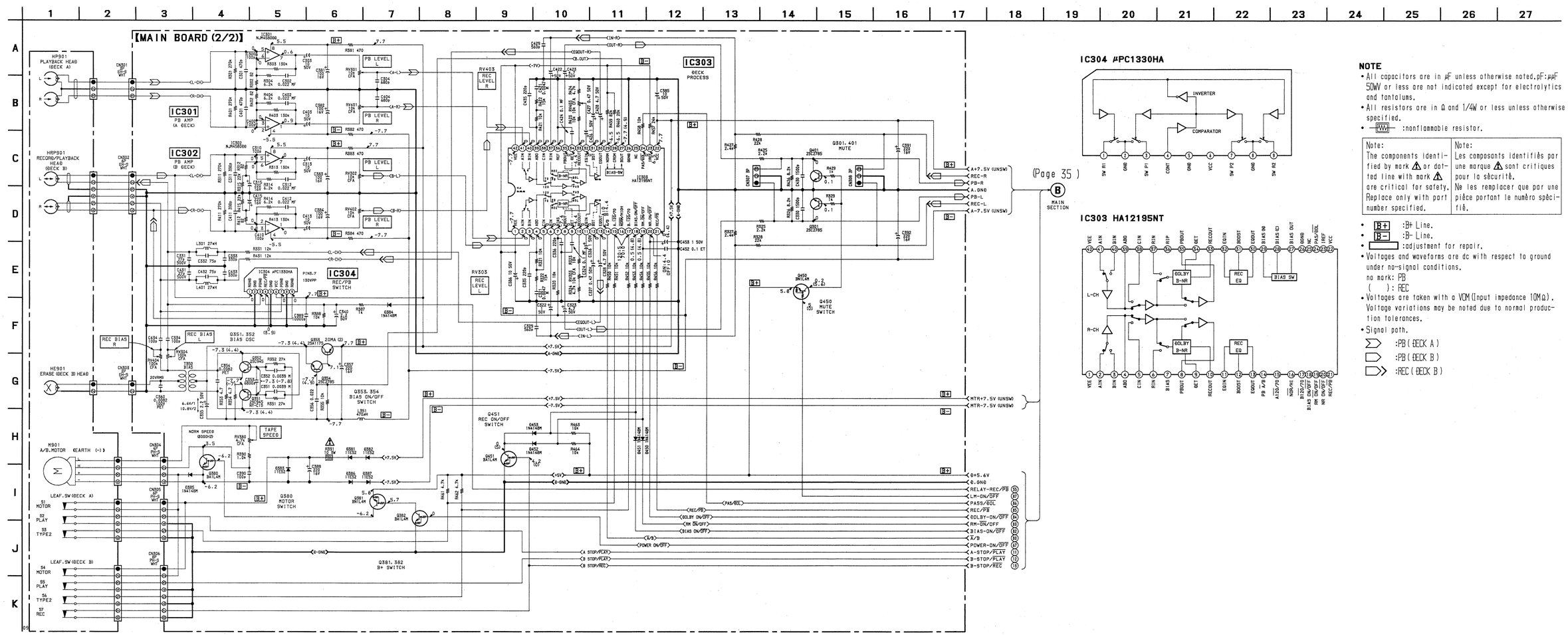
5-8. SCHEMATIC DIAGRAM — MAIN SECTION —

• See page 54 for IC Pin Function. (IC701)


【MAIN BOARD (1/2)】
IC901
EQ/VOLUME
IC802
FUNCTION SWITCH
IC1201
POWER AMP
IC1202
PROTECT
IC1003
+7V REG
IC1004
-7V REG
IC1002
+7V REG
IC1001
+5V REG
IC701
MASTER CONTROL
IC702
RESET
【TRANSFORMER BOARD】
T1001
POWER TRANSFORMER
IC1202 μPC1237HA
OVER LOAD DET
OFFSET DET
LATCH/ AUTORESET
AC OFF DET
Vcc ON MUTE
F/F
Vcc
NOTE
• All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and 1/4W or less unless otherwise specified.
• △ : internal component.
• : nonflammable resistor.
• : fusible resistor.
• : panel designation.
Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.
Note: Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
• B+ : B+ Line.
• B- : B- Line.
• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark: FM
( ) : CD PLAY
• Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
• Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
• Signal path.
:FM
:VIDEO
:PB
:REC
:CD
(Page 43)
(Page 41)
(Page 30)
(Page 47)
(Page 50)
TCB BOARD CN1
BECK SECTION
BG BOARD CN1102
CD MOTOR BOARD CN201
PANEL BOARD CN501

5-9. SCHEMATIC DIAGRAM — DECK SECTION —

• See page 32 for Printed Wiring Board. (MAIN BOARD)



IC304 #PC1330HA

IC303 HA12195NT

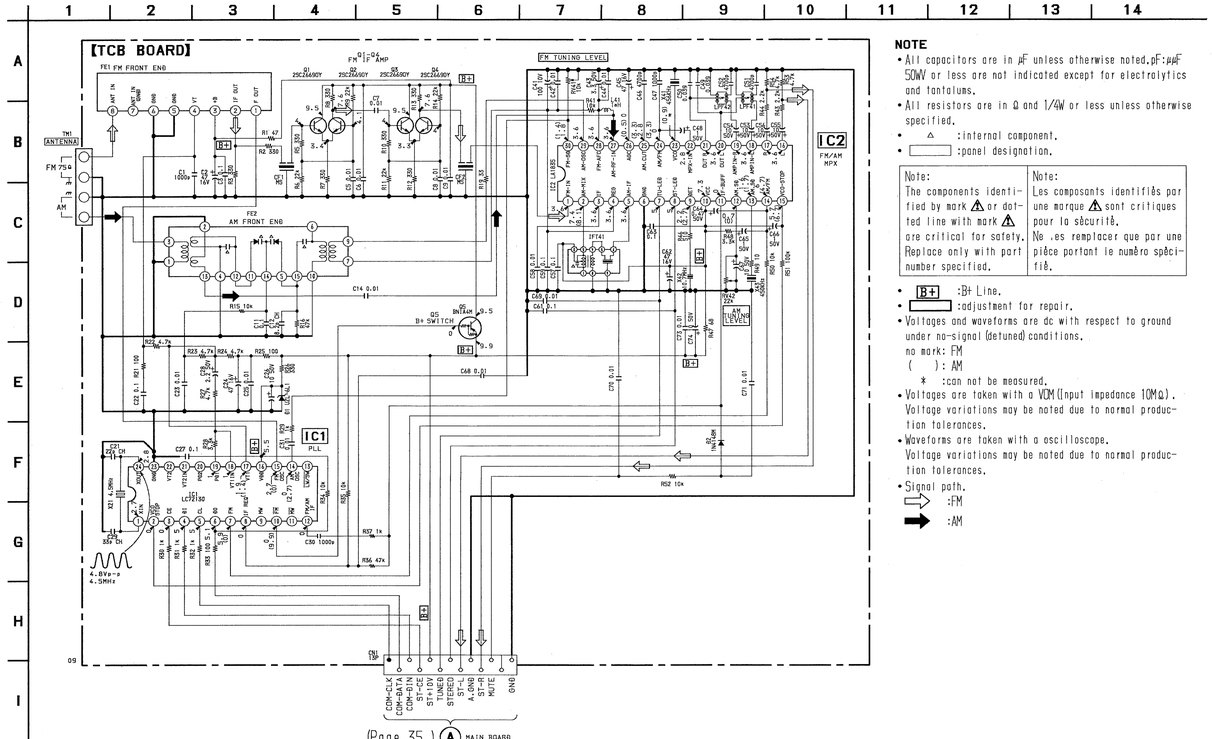
NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▭ : nonflammable resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line.
- B− : B− Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: PB
  ( ): REC
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)

5-10. SCHEMATIC DIAGRAM — TUNER SECTION —



NOTE

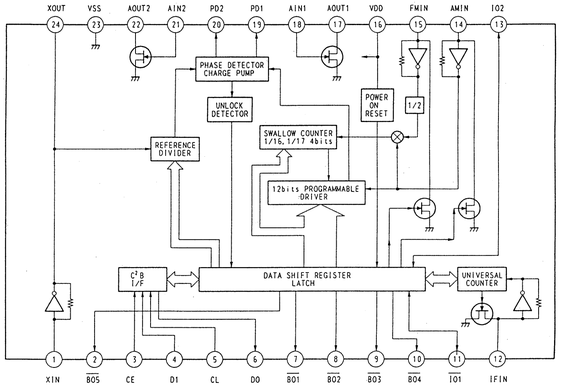
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

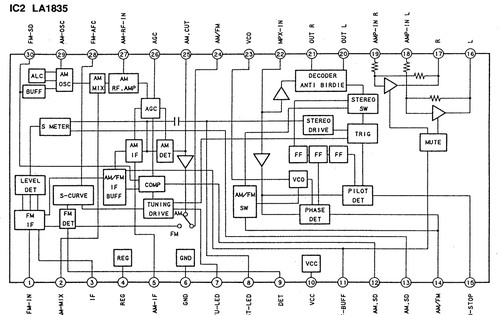
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
  ( ): AM
  * : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

• IC Block Diagrams

IC1 LC72130



IC2 LA1835

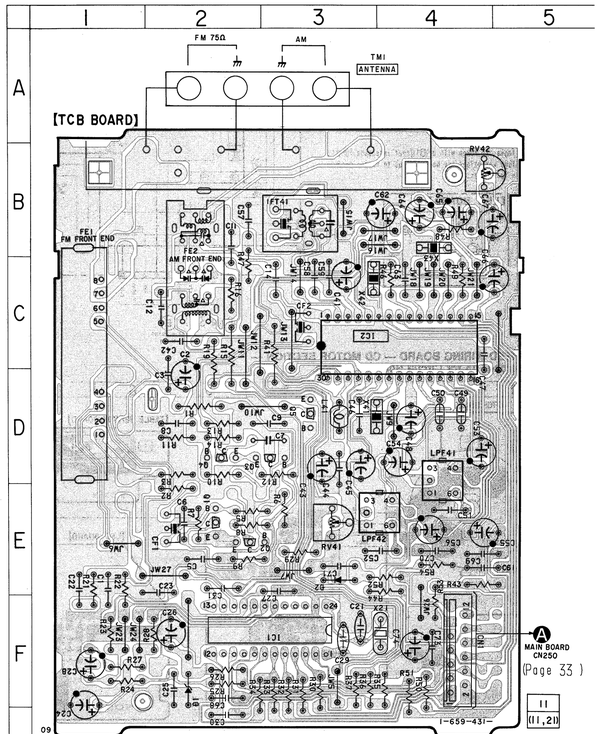


- **Semiconductor Location**

Ref. No.	Location
D1	F-2
D2	E-3
IC1	F-3
IC2	C-3
Q1	E-2
Q2	E-3
Q3	D-2
Q4	D-2
Q5	D-3

5-11. PRINTED WIRING BOARD — TUNER SECTION —

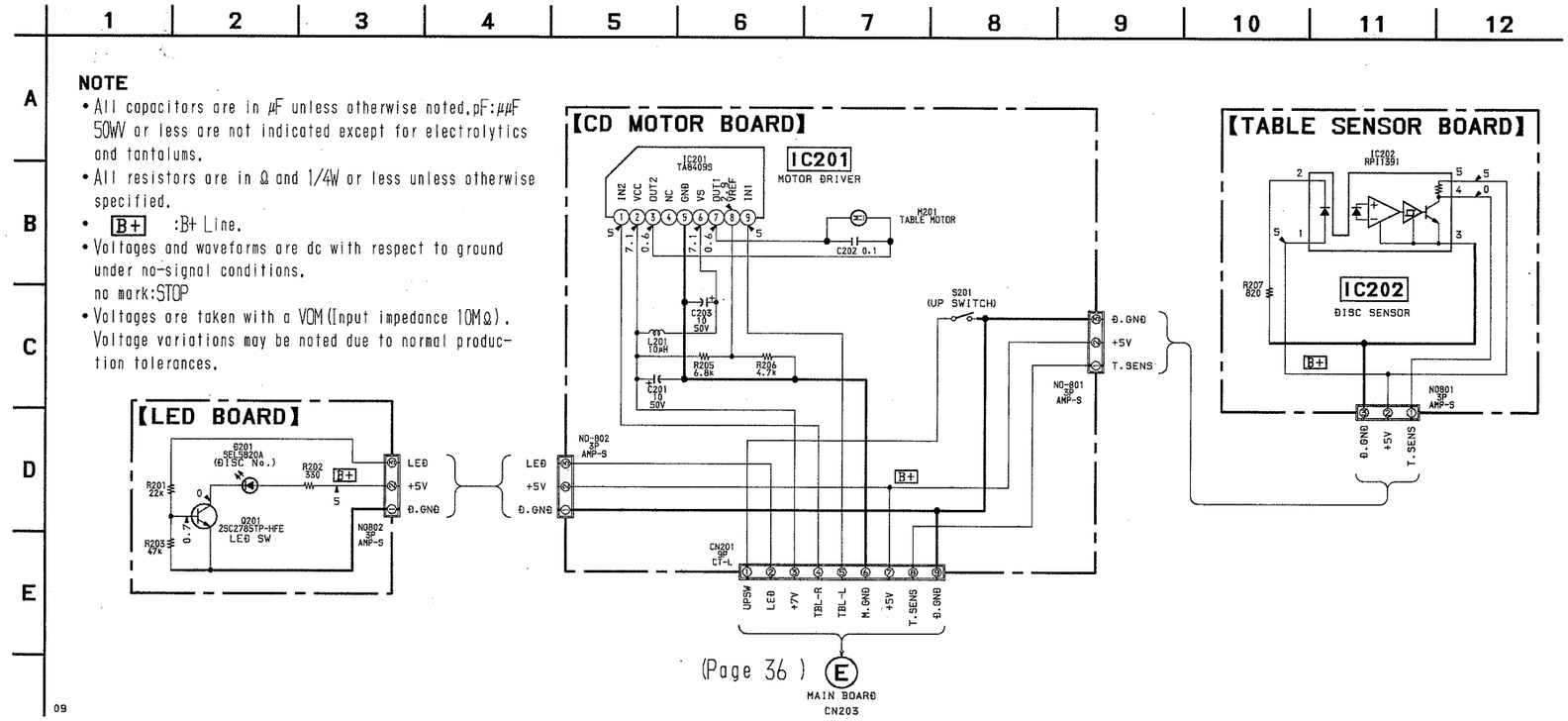
• See page 15 for Circuit Boards Location.



Note:

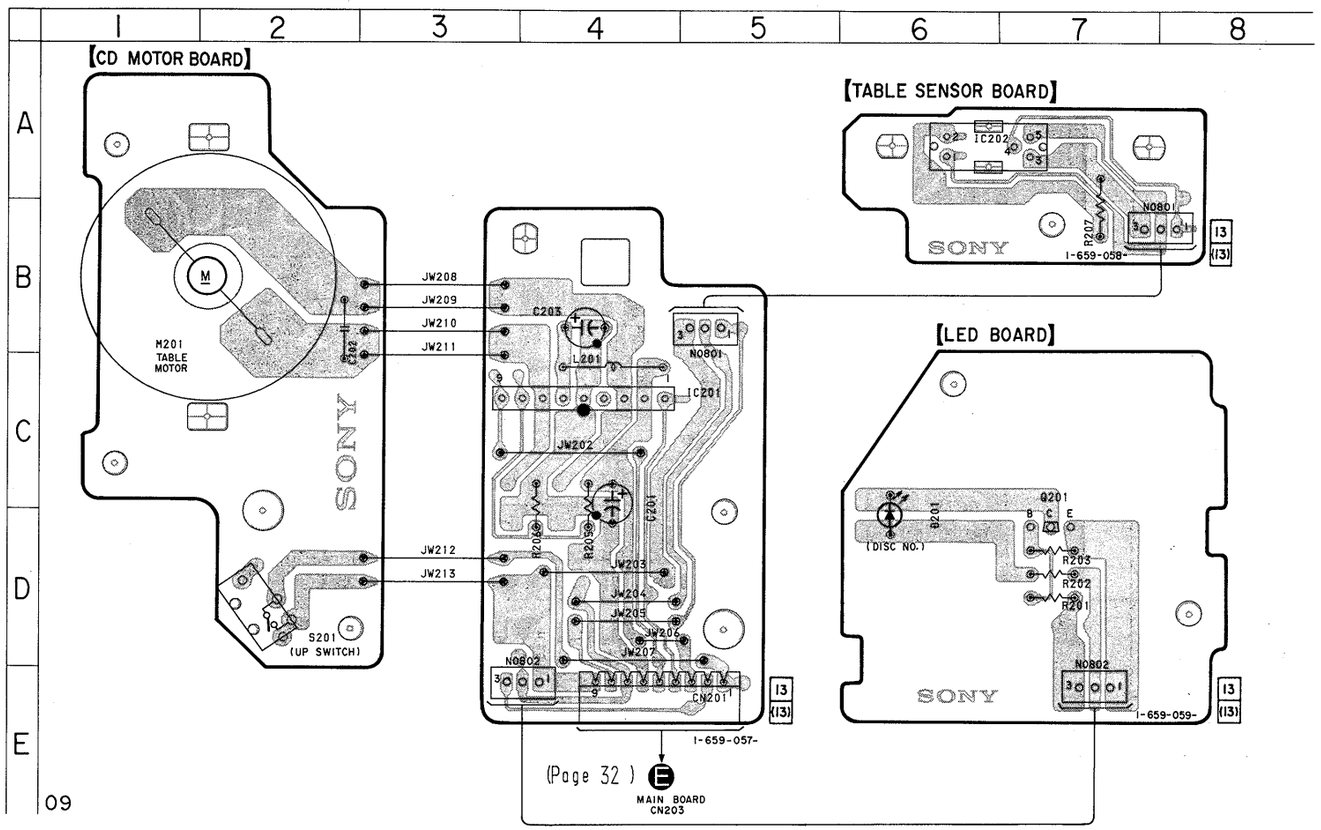
- ○—— : parts extracted from the component side.
- △ : internal component.
- ▭ : Pattern from the side which enable seeing.

5-12. SCHEMATIC DIAGRAM — CD MOTOR SECTION —


1 2 3 4 5 6 7 8 9 10 11 12
A B C D E
NOTE
• All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and 1/4W or less unless otherwise specified.
• B+ :B+ Line.
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP
• Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
【LED BOARD】
【CD MOTOR BOARD】
IC201
MOTOR DRIVER
IC201 TA8409S
M201 TABLE MOTOR
S201 (UP SWITCH)
【TABLE SENSOR BOARD】
IC202 RPI1391
IC202 DISC SENSOR
D.GND
+5V
T.SENS
LED
CN201 CT-L
UPSW
M.GND
(Page 36) E
MAIN BOARD CN203
09

5-13. PRINTED WIRING BOARD — CD MOTOR SECTION —

• **See page 15 for Circuit Boards Location.**

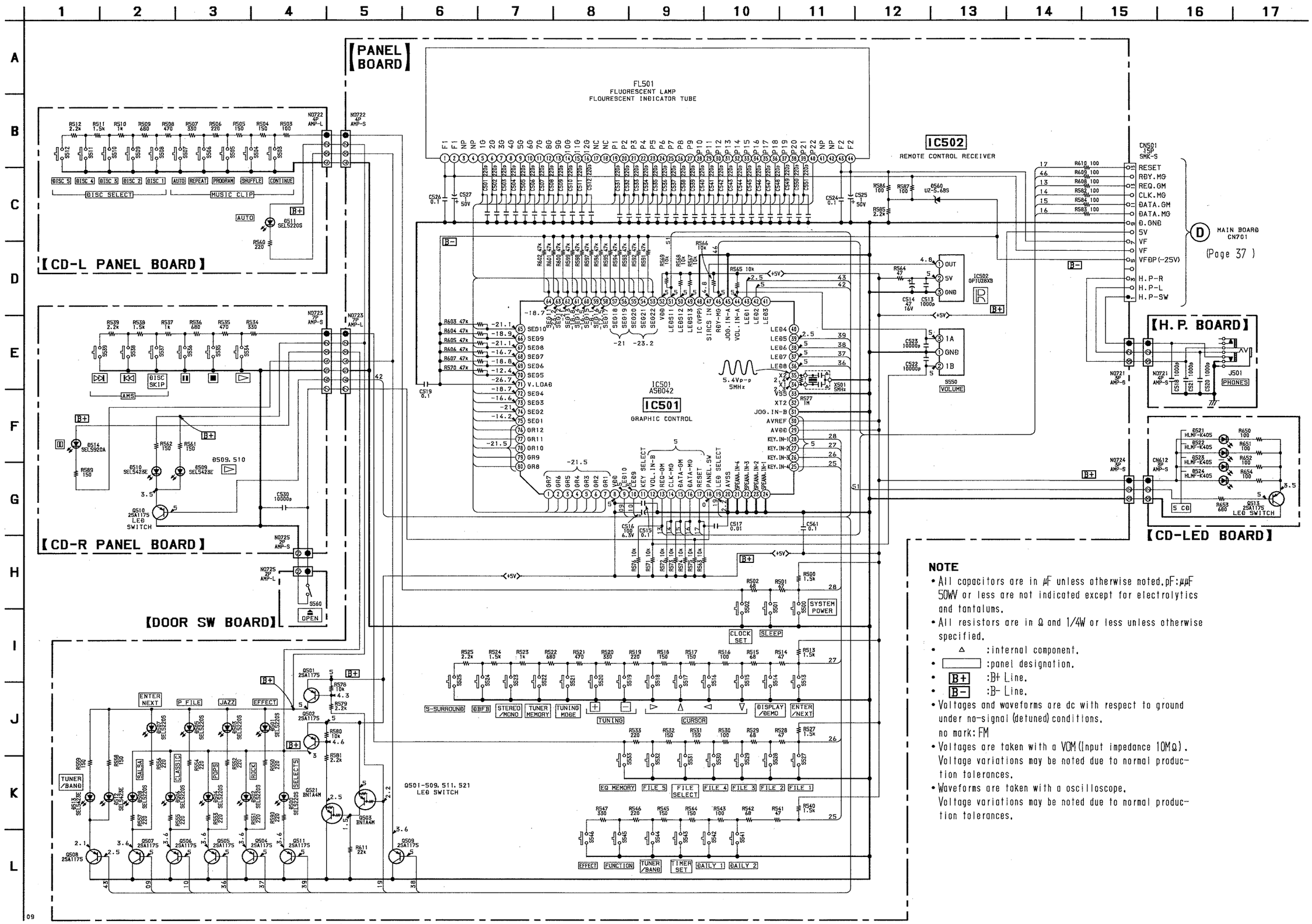


Note:

• ○—— : parts extracted from the component side.
• ▒▒▒ : Pattern from the side which enable seeing.

5-14. SCHEMATIC DIAGRAM — PANEL SECTION —

• See page 16 for IC Pin Function. (IC501)

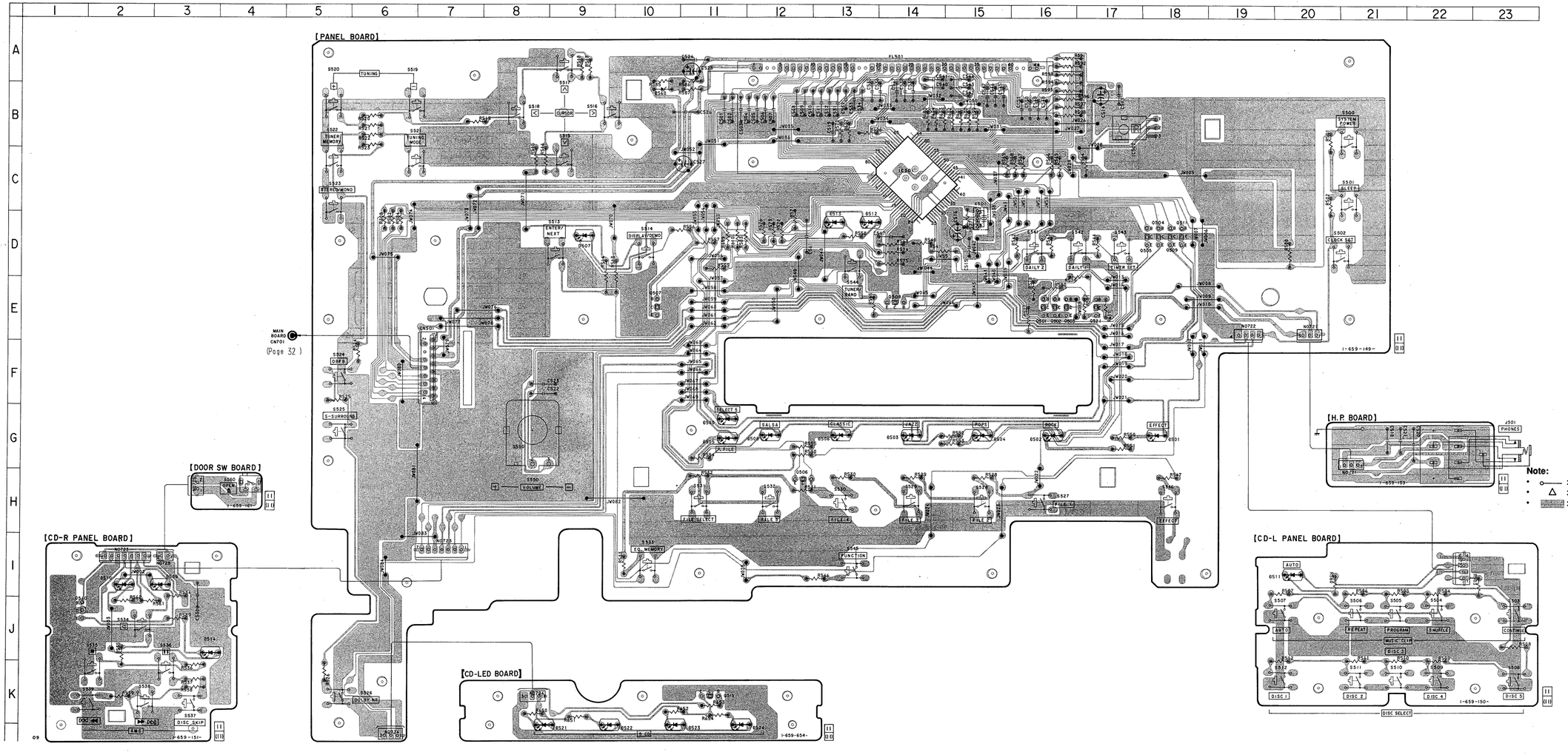


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- B- : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

5-15. PRINTED WIRING BOARD — PANEL SECTION —

• See page 15 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D500	G-11
D501	G-18
D502	G-16
D503	G-14
D504	G-15
D505	G-11
D506	G-13
D507	D-9
D508	G-12
D509	I-3
D510	I-2
D511	I-20
D512	D-13
D513	D-13
D514	J-3
D521	K-8
D522	K-10
D523	K-11
D524	K-12
D560	B-10
IC501	C-14
IC502	B-17
Q501	E-16
Q502	E-16
Q503	E-16
Q504	D-18
Q505	D-18
Q506	H-12
Q507	E-10
Q508	E-14
Q509	D-18
Q510	J-1
Q511	D-18
Q513	K-11
Q521	E-17

Note:

- ○—— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enable seeing.

5-16. IC PIN FUNCTION (IC701)

- **IC701 MASTER CONTROL (TMP87CS64)**

Pin No.	Pin Name	I/O	Function
1	Vss	–	GND
2	XOUT	O	X'tal (10 MHz).
3	XIN	I	
4	$\overline{\text{RESET}}$	I	Reset signal input.
5	XOUT	O	X'tal for clock (32.768 kHz)
6	XIN	I	
7	GND (test)	–	GND
8	$\overline{\text{AC CUT}}$	I	Back up signal input.
9	SUPER WOOFER ON	O	Not used. (Pull up)
10	ST-MUTE ON	O	Mute signal output for tuner.
11	$\overline{\text{180-A-PLAY}}$	I	Tape detection signal input.
12	$\overline{\text{180-B-PLAY}}$	I	
13	$\overline{\text{180-B-REC}}$	I	
14	$\overline{\text{CLOSE (DOOR SW)}}$	I	Not used.
15	$\overline{\text{BD-UP (5CD)}}$	I	Disc table up detect.
16	$\overline{\text{TRAY CLOSE (1CD)}}$	I	Not used.
17	ENCODER-1	I	Input selector control signal output. (Not used)
18	ENCODER-2	I	
19	ENCODER-3	I	
20	$\overline{\text{OUT SW OPEN}}$	I	Out switch signal input. (Not used)
21	LOAD IN	O	Loading motor control signal output. (Not used)
22	LOAD OUT	O	
23	TBL-L	O	Table motor control signal output.
24	TBL-R	O	
25	SCOR	I	Sub-code sync signal input.
26	TBL-SENS	I	CD Table sensor signal input.
27	RDS INT	I	RDS data start input. (Connected to GND)
28	RDS DATA	I	RDS data output. (Connected to GND)
29	DF LAT	O	Latch signal for digital filter.
30	SENS	I	Table sence signal input.
31	$\overline{\text{XRST}}$	O	Reset signal output for CD.
32	MG-RDY	I	RDY signal from graphic control.
33	ADJ	I	Test mode input.
34	$\overline{\text{GM-REQ}}$	I	Request signal from graphic control.
35	MG-CLK	O	Clock signal to graphic control.
36	GM-DATA	I	Data input from graphic control.
37	MG-DATA	O	Data output to graphic control.
38	CD-CLK	O	Clock output. Serial bus line.
39	$\overline{\text{ADJ-2}}$	I	Test mode input.
40	CD-DATA	O	Data output. Serial bus line.

- Abbreviation
  FL : FLUORESCENT INDICATOR TUBE

Pin No.	Pin Name	I/O	Function
41	AUB IN	I	Audio bus in/output.
42	AUB OUT	O	
43	FOCUS SW	O	Focus switching signal output,.
44	SQ-CLK	O	Subcode Q data read clock output.
45	SQ-DATA	I	Subcode Q data input.
46	X-LAT	O	Latch signal digital signal processor.
47	TEST	I	Test land.
48	VAREF	I	Analog reference voltage input.
49	VAss	–	GND
50	Vss	–	
51	VDD	–	+5V
52	SPEC	I	Not used.
53	DESTINATION	I	
54	DISC SENS	I	
55	TC RELAY	O	REC/PB select signal output.
56	A-SHUT	I	Control signal input from deck. (Connected to GND)
57	B-SHUT	I	
58	B-HALF	I	
59	A-HALF	I	
60	220-A-PLAY	I	
61	220-B-PLAY	I	
62	62427 LAT	O	PLL latch output.
63	K-CON-LAT	O	Not used.
64	VOL LAT (AV)	O	Latch signal for electrical volume. (Not used)
65	REAR SP RELAY B	O	Not used.
66	FRONT SP RELAY C	O	
67	$\overline{\text{POWER ON}}$	O	Power on signal output.
68	CD POWER	O	CD power control signal output.
69	$\overline{\text{PROLOG LAT}}$	O	Not used.
70	$\overline{\text{MUTE}}$	O	Mute signal for AMP.
71	COM CLK	O	PLL clock output.
72	COM DIN	I	PLL data input.
73	COM DATA	O	PLL data output.
74	$\overline{\text{K CON ON}}$	O	Not used.
75	LIDDED LED	O	Disc No. LED drive signal output.
76	$\overline{\text{PROLOG ON}}$	O	Not used.
77	DBFB-HIGH	O	DBFB switching signal output.
78	$\overline{\text{URG STB STDBY}}$	I	Not used.
79	$\overline{\text{URG STB ON}}$	O	
80	$\overline{\text{TC A}}$	O	Deck A, B select output.

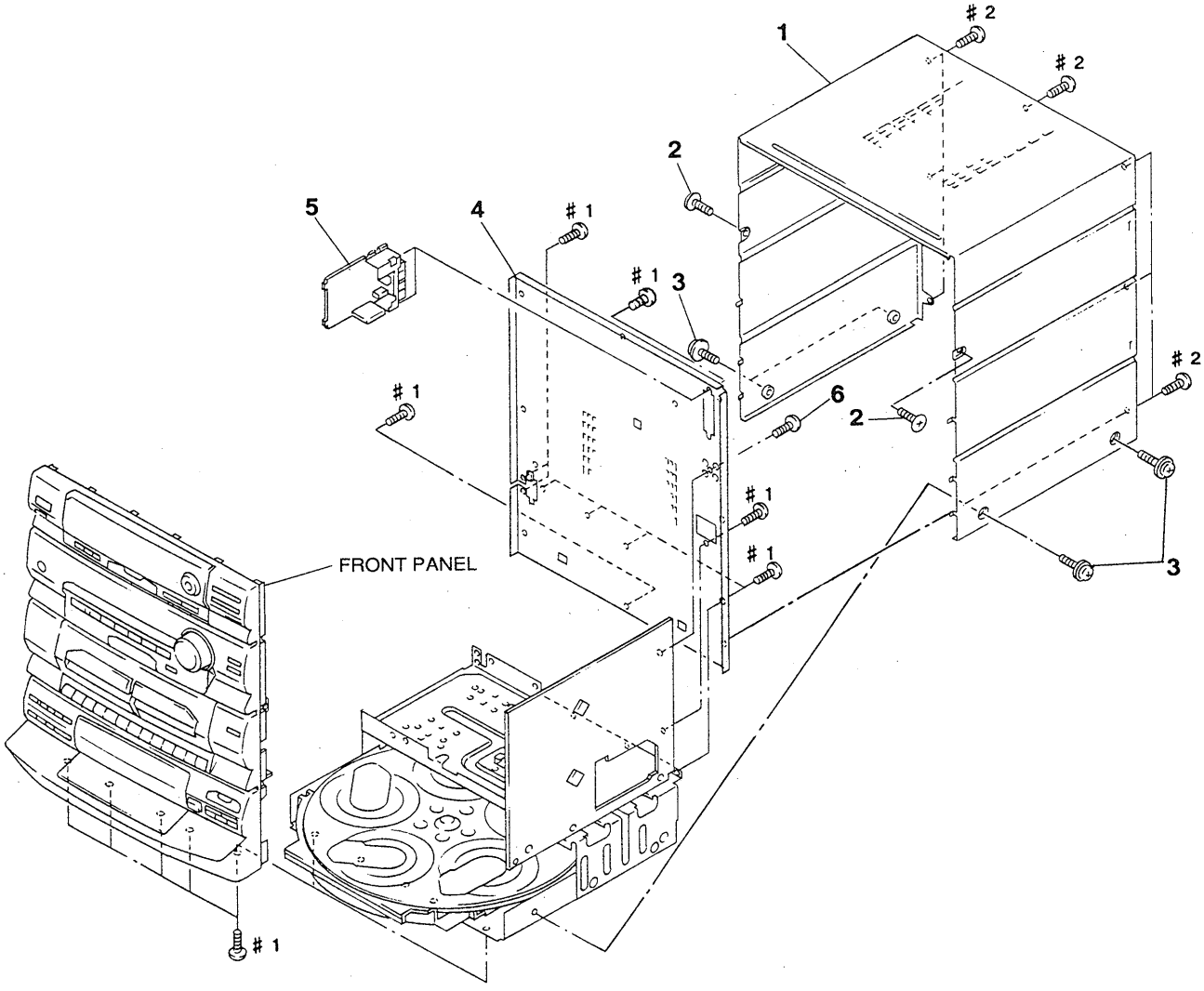
Pin No.	Pin Name	I/O	Function
81	$\overline{\text{NORM}}$	O	Not used.
82	$\overline{\text{BIAS OFF}}$	O	Bias oscillation output.
83	$\overline{\text{REC MUTE}}$	O	Mute output.
84	$\overline{\text{NR OFF}}$	O	Dolby ON/OFF signal output.
85	$\overline{\text{PB}}$	O	REC/PB signal output.
86	$\overline{\text{PASS. AMP/DOLBY}}$	O	Dolby switching signal output.
87	$\overline{\text{LINE MUTE ON}}$	O	Mute signal output for deck.
88	$\overline{\text{CAP. M-HIGH}}$	O	Not used.
89	A-TRG	O	
90	B-TRG	O	
91	$\overline{\text{TRG LOW}}$	O	
92	$\overline{\text{CAP M ON}}$	O	
93	$\overline{\text{STEREO}}$	I	Stereo detection signal from tuner.
94	$\overline{\text{TUNED}}$	I	Tuned detection signal from tuner.
95	ST-CE	O	Latch signal output for tuner.
96	$\overline{\text{DELAY SEL MIC}}$	O	Not used.
97	$\overline{\text{DELAY ON}}$	O	
98	DELAY LEVEL A	O	
99	DELAY LEVEL B	O	
100	V_{DD}	–	+5V

SECTION 6
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

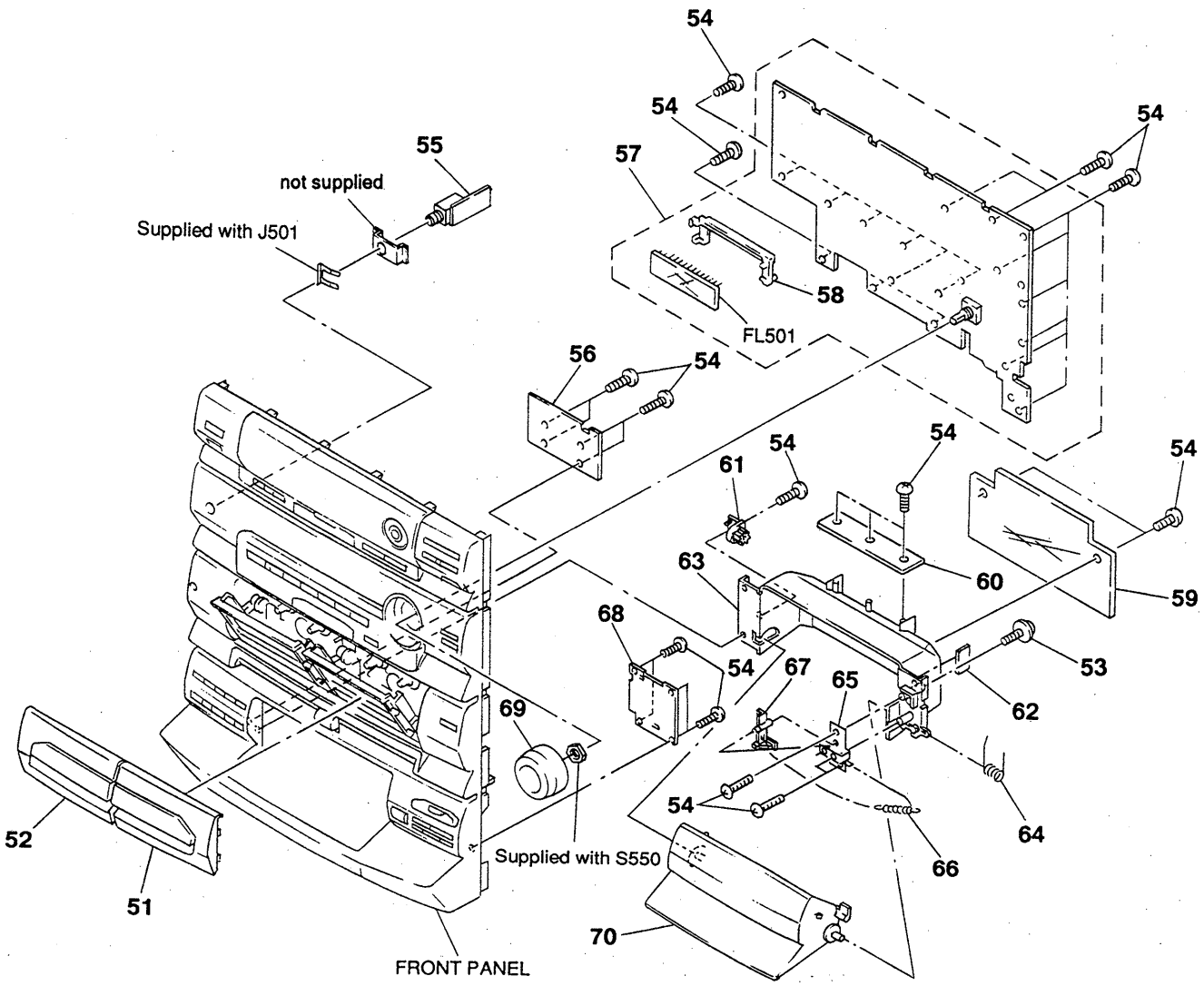
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-1. CASE AND BACK PANEL SECTION



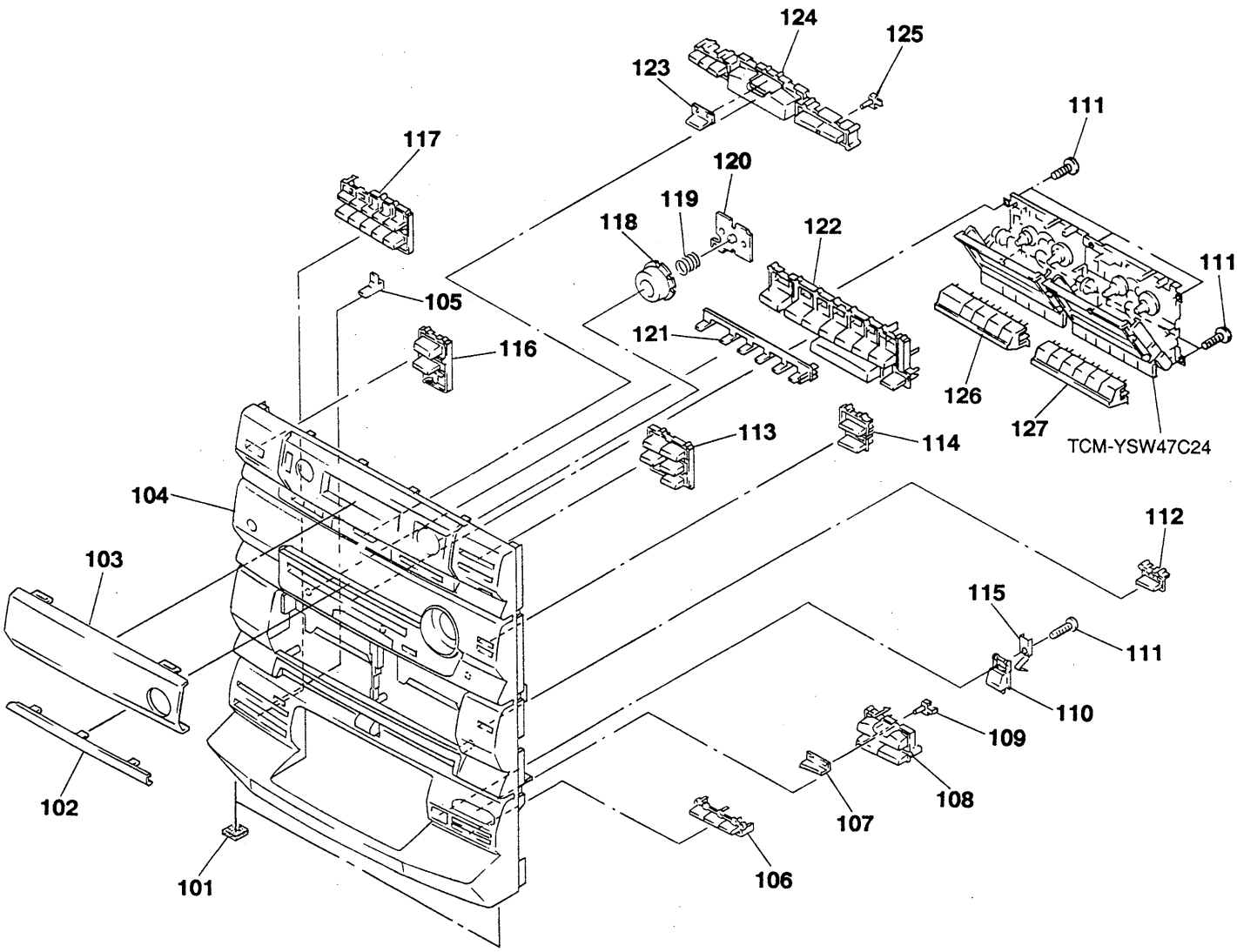
Ref. No.	Part No.	Description	Remark
* 1	4-978-177-11	CASE (D170)	
* 1	4-978-177-31	CASE (G1100)	
2	3-363-099-01	SCREW (CASE 3 TP2)	
3	4-929-973-01	SCREW (CASE 3 POINT)	
* 4	4-978-187-01	PANEL, BACK (D170:US)	
* 4	4-978-187-11	PANEL, BACK (D170:CND)	
* 4	4-978-187-81	PANEL, BACK (G1100)	
* 5	A-4303-510-A	TCB BOARD, COMPLETE	
6	4-909-982-11	SCREW, TAPPING	

6-2. PANEL BOARD SECTION



Ref. No.	Part No.	Description	Remark
51	X-4946-623-1	LID (B) ASSY, CASSETTE (D170)	
51	X-4946-639-1	LID (B) ASSY, CASSETTE (G1100)	
52	X-4946-622-1	LID (A) ASSY, CASSETTE (D170)	
52	X-4946-638-1	LID (A) ASSY, CASSETTE (G1100)	
53	4-909-982-11	SCREW, TAPPING	
54	4-951-620-01	SCREW (2.6X8), +BVTP	
* 55	1-659-153-11	H.P. BOARD	
* 56	1-659-150-11	CD-L PANEL BOARD	
* 57	A-4378-889-A	PANEL BOARD, COMPLETE	
* 58	4-978-168-01	HOLDER, FL TUBE	
59	4-980-060-01	INDICATOR (COVER)	
* 60	1-659-154-11	CD-LED BOARD	
61	3-354-963-21	DAMPER	
* 62	1-659-161-11	DOOR SW BOARD	
63	4-978-140-11	COVER (CD)	
64	4-978-171-01	SPRING, TORSION	
* 65	4-978-169-01	BRACKET (OPEN)	
66	4-978-170-01	SPRING, TENSION	
67	4-978-141-01	LEVER, LOCK	
* 68	1-659-151-11	CD-R PANEL BOARD	
69	4-978-142-01	KNOB (V)	
70	4-978-139-01	LID, DISC	
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT	

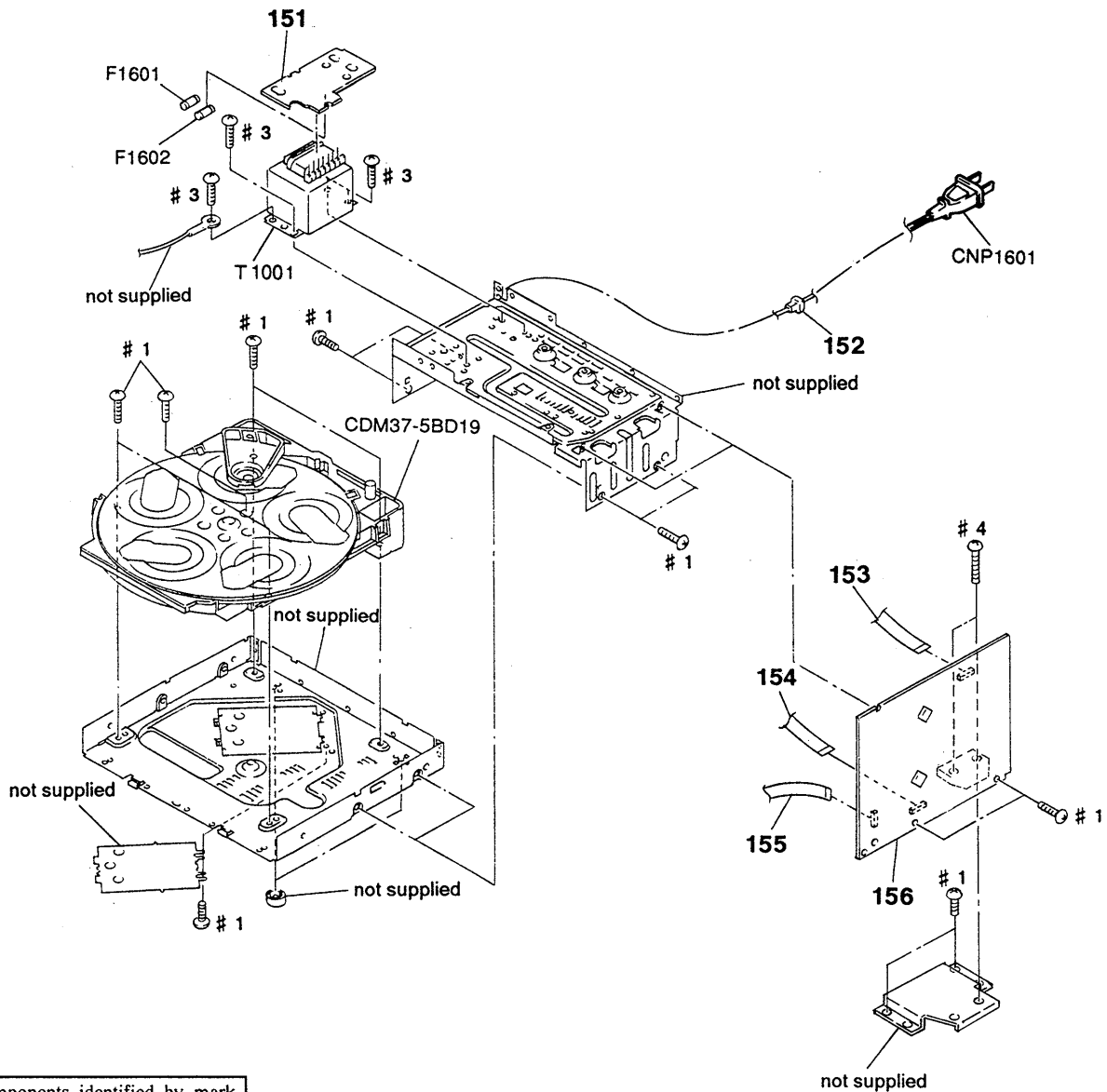
6-3. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	4-948-236-01	CUSHION (107)	
102	4-978-134-01	DISPLAY (TA)	
103	4-978-131-01	DISPLAY (ST)	
104	4-978-113-01	PANEL, FRONT (D170)	
104	4-978-113-31	PANEL, FRONT (G1100)	
105	4-978-138-01	INDICATOR (AUTO-L)	
106	4-978-129-01	BUTTON (DISC SKIP)	
107	4-978-137-01	INDICATOR (PLAY)	
108	4-978-128-01	BUTTON (PLAY)	
109	4-978-161-01	INDICATOR (PAUSE)	
110	4-978-130-01	BUTTON (OPEN)	
111	4-951-620-01	SCREW (2.6X8), +BVTP	
112	4-978-124-01	BUTTON (DOLBY)	
113	4-978-120-01	BUTTON (TUNING)	
114	4-978-122-01	BUTTON (DBFB)	

Ref. No.	Part No.	Description	Remark
115	4-980-061-01	SPRING (OPEN)	
116	4-978-118-01	BUTTON (POWER)	
117	4-978-127-01	BUTTON (DISC 5)	
118	4-978-119-01	BUTTON (CURSOR)	
119	4-978-683-01	SPRING, COMPRESSION	
120	4-978-682-01	COVER (CURSOR)	
121	4-978-681-01	INDICATOR (SE5)	
122	4-978-123-01	BUTTON (FU)	
123	4-978-135-01	INDICATOR (BAND)	
124	4-978-121-01	BUTTON (BAND)	
125	4-978-136-01	INDICATOR (ENTER)	
126	4-978-125-01	BUTTON (MD-A)	
127	4-978-126-01	BUTTON (MD-B)	

6-4. CHASSIS SECTION

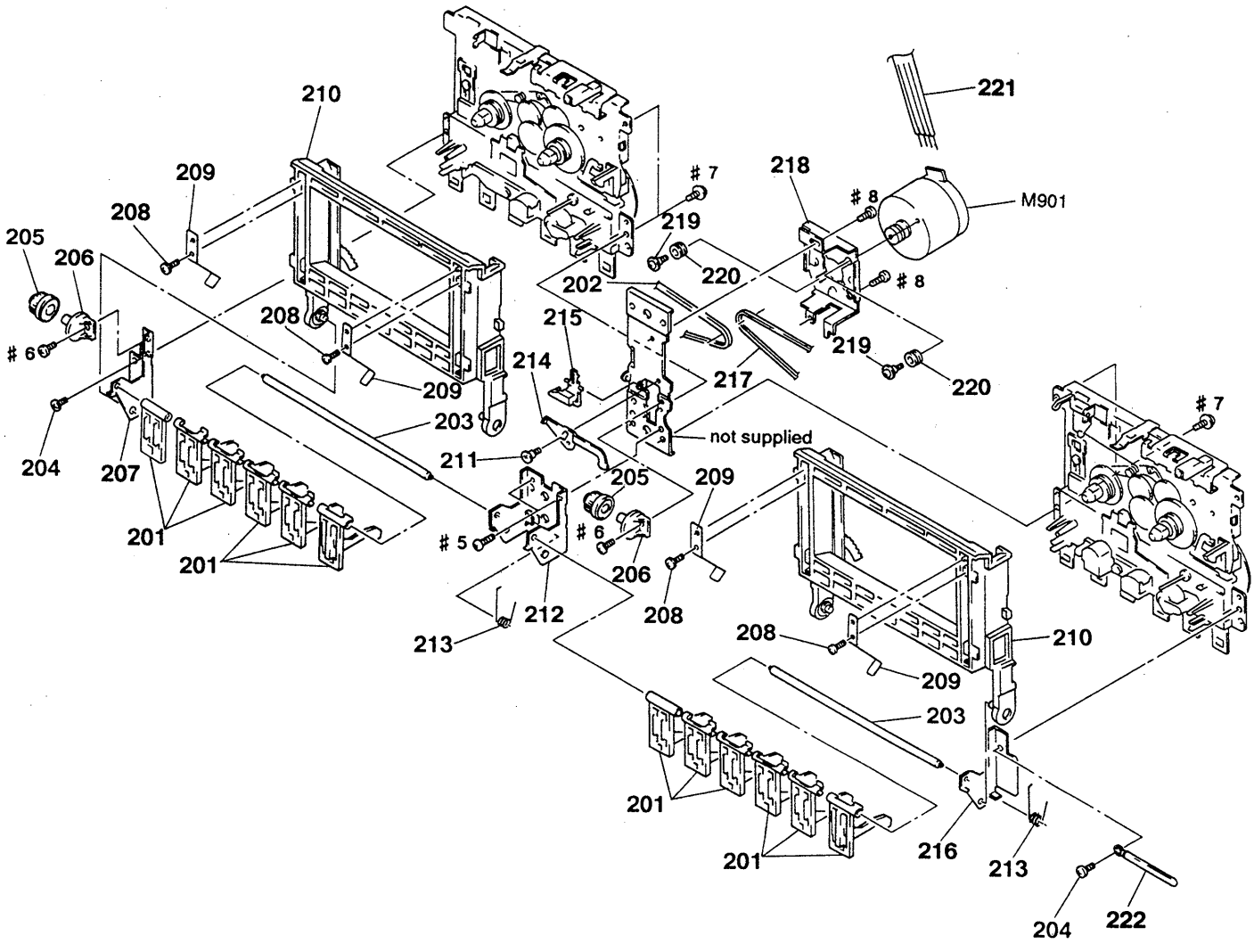


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 151	1-659-155-11	TRANSFORMER BOARD	
* 152	3-703-244-00	BUSHING (2104), CORD	
153	1-769-977-11	WIRE (FLAT TYPE) (13 CORE)	
154	1-776-238-11	WIRE (FLAT TYPE) (19 CORE)	
155	1-773-024-11	WIRE (FLAT TYPE) (15 CORE)	

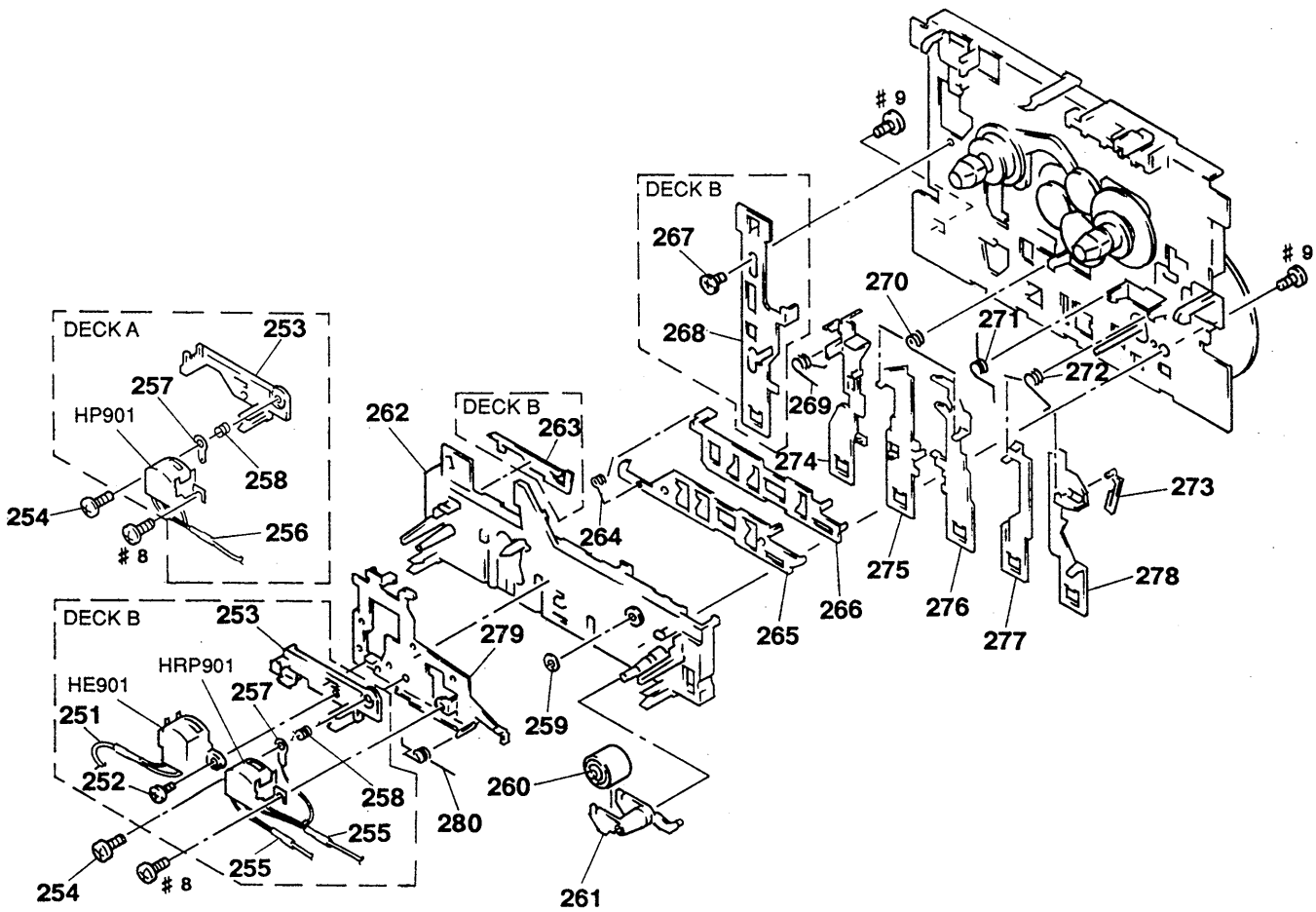
Ref. No.	Part No.	Description	Remark
* 156	A-4378-895-A	MAIN BOARD, COMPLETE	
⚠CNP1601	1-575-042-21	CORD, POWER	
⚠F1601	1-533-420-11	FUSE, GLASS CYLINDRICAL (DIA. 5) (5A/125V)	
⚠F1602	1-533-420-11	FUSE, GLASS CYLINDRICAL (DIA. 5) (5A/125V)	
⚠T1001	1-429-309-21	TRANSFORMER, POWER	

6-5. TC MECHANISM SECTION 1 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
201	3-931-802-01	BUTTON, LEVER	
202	3-918-734-01	BELT	
* 203	3-931-794-01	BUTTON, SHAFT	
204	3-918-741-01	SCREW	
205	3-931-807-01	DAMPER, GEAR	
206	3-931-806-01	GEAR, HOLDER	
* 207	3-931-793-01	BUTTON (L), HOLDER	
208	3-931-790-01	SCREW	
* 209	3-931-804-01	PLATE, KEEP	
210	3-931-803-01	CASE, CASSETTE	
211	3-931-791-01	SCREW	
212	3-931-809-01	BUTTON (S), HOLDER	
213	3-931-805-01	SPRING	
* 214	3-369-927-01	ARM, CONNECT	
215	3-369-928-01	ARM, RELEASE	
* 216	3-931-792-01	BUTTON (R), HOLDER	
217	3-369-931-01	BELT	
* 218	3-918-742-01	HOLDER, MOTOR	
219	3-343-896-01	SCREW, MOTOR	
220	3-343-897-01	WASHER, RUBBER	
221	1-698-705-11	MOTOR, WIRE	
222	3-931-808-01	LUG, PLATE	
M901	X-3372-231-1	MOTOR ASSY (CAPSTAN/REEL)	

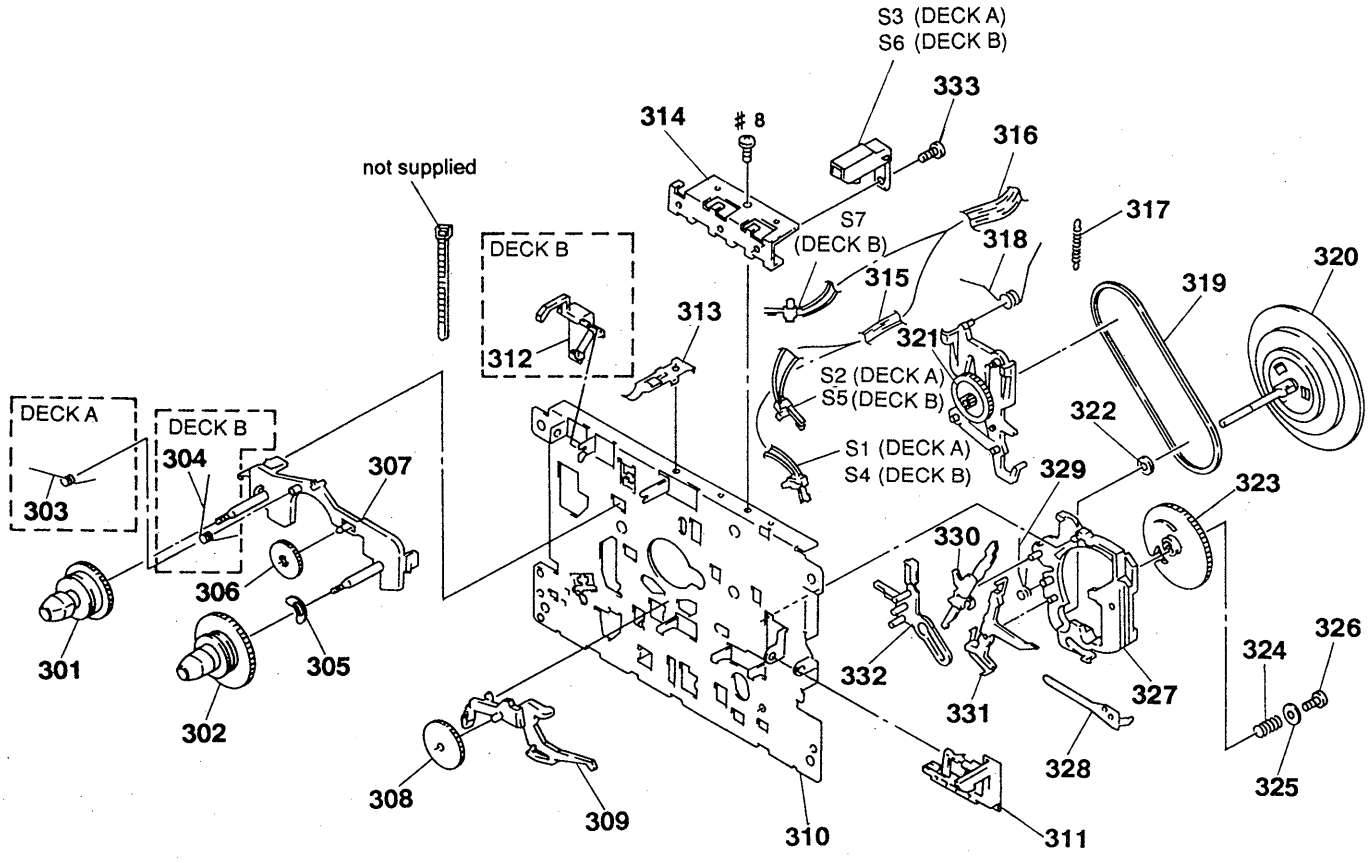
6-6. TC MECHANISM SECTION 2 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
251	1-500-322-11	HEAD, WIRE (E) (DECK B)	
252	3-931-789-01	SCREW (DECK B)	
253	1-500-319-11	HEAD, HOLDER (DECK B)	
253	3-362-986-01	HOLDER, HEAD (DECK A)	
254	3-363-229-01	SCREW	
255	1-500-320-11	HEAD, WIRE R/P (DECK B)	
256	1-500-321-11	HEAD, WIRE P.B (DECK A)	
257	3-390-817-01	LUG	
258	3-362-985-01	SPRING	
259	3-362-980-01	WASHER	
260	3-362-982-01	PINCH ROLLER	
261	3-362-981-01	PINCH ARM	
262	3-362-942-01	FRAME ASSY	
263	3-362-944-01	STOPPER, REC (DECK B)	
264	3-362-945-01	SPRING	
* 265	3-362-943-01	PLATE, FUNCTION	
* 266	3-362-946-01	LEVER, SW	

Ref. No.	Part No.	Description	Remark
267	3-362-958-01	SCREW (DECK B)	
* 268	3-362-947-01	LEVER, REC (DECK B)	
269	3-362-954-01	SPRING	
270	3-362-955-01	SPRING	
271	3-362-956-01	SPRING	
272	3-932-552-01	SPRING	
273	3-362-953-01	ARM, PAUSE	
* 274	3-362-948-01	LEVER, PLAY	
* 275	3-362-949-01	LEVER, REW	
* 276	3-362-950-01	LEVER, FF	
* 277	3-362-951-01	LEVER, SE	
* 278	3-362-952-01	LEVER, PAUSE	
* 279	3-362-984-01	HEAD (BASE)	
280	3-362-983-01	SPRING	
HE901	1-500-318-11	HEAD, E (ERASE) (DECK B)	
HP901	1-543-424-21	HEAD (PLAYBACK) (DECK A)	
HRP901	1-543-424-21	HEAD (RECORD/PLAYBACK) (DECK B)	

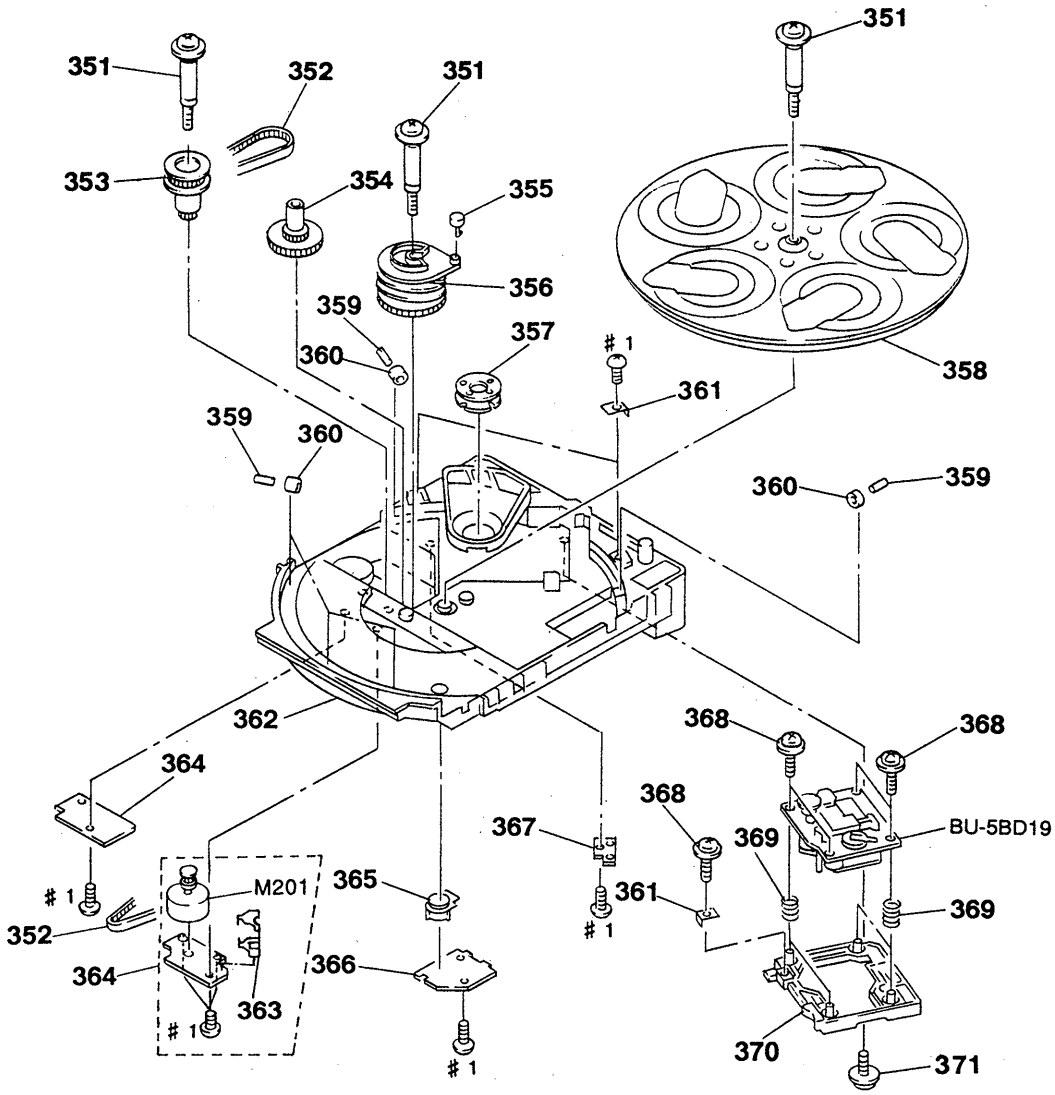
6-7. TC MECHANISM SECTION 3 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
301	X-3363-611-1	REEL, S	
302	3-362-962-01	REEL ASSY, T	
303	3-372-120-01	SPRING (DECK A)	
304	3-918-735-01	SPRING (DECK B)	
305	3-932-553-01	PLATE SPRING BT	
306	3-362-965-01	IDLER, FF	
307	3-362-961-01	SPINDLE (BASE)	
308	3-362-960-01	PULLEY, IDLER	
309	3-362-959-01	ARM, IDLER	
* 310	3-362-941-01	CHASSIS	
311	3-362-968-01	LEVER, EJECT	
312	3-362-966-01	INTER LOCK (DECK B)	
313	3-918-744-01	SPRING, CASSETTE	
314	1-762-610-11	SWITCH, PLATE	
315	1-762-613-11	SWITCH, WIRE LEAF (DECK A)	
316	1-762-612-11	SWITCH, WIRE LEAF (DECK B)	
317	3-362-971-01	SPRING	
318	3-362-970-01	SPRING	
319	3-918-734-01	BELT	
320	3-369-921-01	FW ASSY	

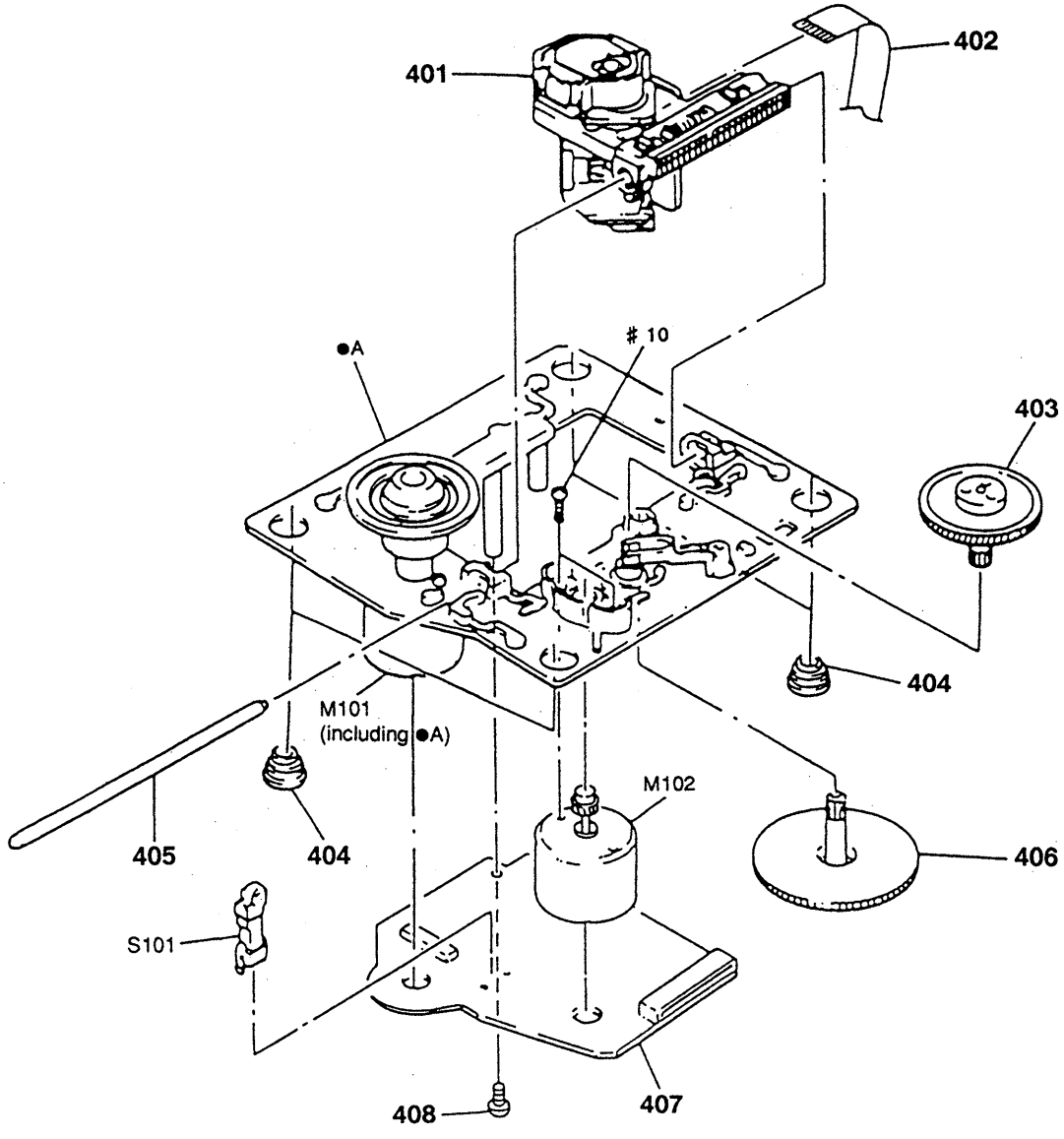
Ref. No.	Part No.	Description	Remark
321	3-362-969-01	IDLER ASSY, PF	
322	3-918-736-01	WASHER	
323	X-3363-315-1	GEAR, CAM	
324	3-369-962-01	SPRING, COMPRESSION	
325	3-369-961-01	WASHER	
326	3-366-352-01	SCREW	
327	3-362-973-01	AS (BASE)	
328	3-362-978-01	SPRING, PLATE	
329	3-362-977-01	SPRING	
330	3-362-976-01	LEVER, CONTROL	
331	3-362-975-01	LEVER, SENSOR	
332	3-387-697-01	SENSOR	
333	3-918-741-01	SCREW	
S1	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK A)	
S2	1-571-745-11	SWITCH, LEAF (PLAY) (DECK A)	
S3	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK A)	
S4	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK B)	
S5	1-571-745-11	SWITCH, LEAF (PLAY) (DECK B)	
S6	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK B)	
S7	1-571-556-11	SWITCH, LEAF (REC) (DECK B)	

6-8. CD MECHANISM SECTION (CDM37-5BD19)



Ref. No.	Part No.	Description	Remark
351	4-978-423-01	SCREW, STEP	
352	4-944-490-01	BELT (TIMING)	
353	A-4660-978-A	GEAR (PULLEY) ASSY	
354	4-978-421-01	GEAR (MID)	
355	4-978-425-01	ROLLER (CAM)	
356	4-978-420-01	CAM (HOLDER)	
* 357	1-452-538-11	MAGNET	
358	4-978-417-01	TABLE, DISC	
359	4-934-376-01	SHAFT (ROLLER)	
360	X-4924-457-1	ROLLER ASSY	
* 361	4-978-583-01	BRACKET (BU)	
* 362	4-978-418-01	CHASSIS	
* 363	4-980-385-01	HOLDER (SW)	
* 364	A-4673-765-A	CD MOTOR BOARD, COMPLETE	
365	4-978-426-01	INDICATOR (NO.)	
* 366	1-659-059-12	LED BOARD	
* 367	1-659-058-12	TABLE SENSOR BOARD	
368	4-933-134-01	SCREW (+PTPWH M2.6X6)	
369	4-958-593-01	SPRING (BU), COMPRESSION	
* 370	4-978-419-01	HOLDER (BU-5)	
371	4-917-583-71	BRACKET, YOKE	
M201	A-4660-977-A	MOTOR ASSY (TABLE)	

6-9. BASE UNIT SECTION (BU-5BD19)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠401	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S-N	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
403	4-917-567-01	GEAR (M)	
404	4-951-940-01	INSULATOR (BU)	
405	4-917-565-01	SHAFT, SLED	
406	4-917-564-01	GEAR (P), FLATNESS	
* 407	A-4673-402-A	BD BOARD, COMPLETE	
408	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

BD

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- CAPACITORS
  uF : μF
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- COILS
  uH : μH

Ref.No.	Part No.	Description			Remark
*	A-4673-402-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C106	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C107	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C119	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C120	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C132	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C133	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C134	1-164-346-11	CERAMIC CHIP	1uF		16V
C135	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C136	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C137	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C139	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C140	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C142	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C145	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C146	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C147	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C148	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C149	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P			
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P			
		< IC >			
IC101	8-752-069-56	IC CXA1782BQ			
IC102	8-759-291-06	IC BA6397FP			
IC103	8-752-372-94	IC CXD2507AQ			
IC104	8-759-185-29	IC PCM1710U-B			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
Q102	8-729-424-08	TRANSISTOR UN2111			
Q103	8-729-421-22	TRANSISTOR UN2211			
		< RESISTOR >			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R103	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R104	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R105	1-216-093-00	METAL CHIP	68K	5%	1/10W
R106	1-216-093-00	METAL CHIP	68K	5%	1/10W
R107	1-216-093-00	METAL CHIP	68K	5%	1/10W
R108	1-216-093-00	METAL CHIP	68K	5%	1/10W
R109	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-083-00	METAL CHIP	27K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-049-91	METAL GLAZE	1K	5%	1/10W

Ref.No.	Part No.	Description				Remark
R119	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R120	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R121	1-216-114-00	METAL GLAZE	510K	5%	1/10W	
R122	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R126	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R127	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R128	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R129	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R138	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R139	1-216-033-00	METAL CHIP	220	5%	1/10W	
R140	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R141	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R142	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R143	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R145	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R146	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R147	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R148	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R149	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R150	1-216-037-00	METAL CHIP	330	5%	1/10W	
R151	1-216-037-00	METAL CHIP	330	5%	1/10W	
R152	1-216-037-00	METAL CHIP	330	5%	1/10W	
R153	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R154	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R156	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R158	1-216-001-00	METAL CHIP	10	5%	1/10W	
		< VARIABLE RESISTOR >				
RV101	1-241-396-11	RES, ADJ, METAL GLAZE	22K			
RV102	1-241-396-11	RES, ADJ, METAL GLAZE	22K			
RV103	1-241-396-11	RES, ADJ, METAL GLAZE	22K			
		< SWITCH >				
S101	1-572-085-11	SWITCH, LEAF (LIMIT)				
		< VIBRATOR >				
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)				

Ref.No.	Part No.	Description				Remark
**********						
*	A-4673-765-A	CD MOTOR BOARD, COMPLETE				
		**********				
*	4-980-385-01	HOLDER (SW)				
		< CAPACITOR >				
C201	1-124-907-11	ELECT	10uF	20%	50V	
C202	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C203	1-124-907-11	ELECT	10uF	20%	50V	
		< CONNECTOR >				
* CN201	1-568-947-11	PIN, CONNECTOR 9P				
		< IC >				
IC201	8-759-365-94	IC TA8409S				
		< COIL >				
L201	1-408-117-00	INDUCTOR 10uH				
		< RESISTOR >				
R205	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R206	1-249-425-11	CARBON	4.7K	5%	1/4W	F
		< SWITCH >				
S201	1-762-587-11	SWITCH, PUSH (1 KEY)(UP)				
**********						
*	1-659-150-11	CD-L PANEL BOARD				
		**********				
		< DIODE >				
D511	8-719-812-44	DIODE TLO124 (AUTO)				
		< RESISTOR >				
R503	1-247-807-31	CARBON	100	5%	1/4W	
R504	1-249-407-11	CARBON	150	5%	1/4W	F
R505	1-249-407-11	CARBON	150	5%	1/4W	F
R506	1-247-815-91	CARBON	220	5%	1/4W	
R507	1-249-411-11	CARBON	330	5%	1/4W	
R508	1-249-413-11	CARBON	470	5%	1/4W	F
R509	1-249-415-11	CARBON	680	5%	1/4W	F
R510	1-249-417-11	CARBON	1K	5%	1/4W	F
R511	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R512	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R560	1-247-815-91	CARBON	220	5%	1/4W	

CD-L PANEL | CD-LED | CD-R PANEL | DOOR SW | H.P. | LED

Ref.No.	Part No.	Description				Remark
		< SWITCH >				
S503	1-554-303-21	SWITCH, TACTILE (CONTINUE)				
S504	1-554-303-21	SWITCH, TACTILE (SHUFFLE)				
S505	1-554-303-21	SWITCH, TACTILE (PROGRAM)				
S506	1-554-303-21	SWITCH, TACTILE (REPEAT)				
S507	1-554-303-21	SWITCH, TACTILE (AUTO)				
S508	1-554-303-21	SWITCH, TACTILE (DISC 1)				
S509	1-554-303-21	SWITCH, TACTILE (DISC 2)				
S510	1-554-303-21	SWITCH, TACTILE (DISC 3)				
S511	1-554-303-21	SWITCH, TACTILE (DISC 4)				
S512	1-554-303-21	SWITCH, TACTILE (DISC 5)				
**********						
*	1-659-154-11	CD-LED BOARD				
		**********				
		< DIODE >				
D521	8-719-058-19	DIODE	HLMF-K405-2UL (5CD)			
D522	8-719-057-40	DIODE	HLMF-K305-2UL (5CD)			
D523	8-719-057-40	DIODE	HLMF-K305-2UL (5CD)			
D524	8-719-058-19	DIODE	HLMF-K405-2UL (5CD)			
		< TRANSISTOR >				
Q513	8-729-119-76	TRANSISTOR	2SA1175-HFE			
		< RESISTOR >				
R650	1-247-807-31	CARBON	100	5%	1/4W	
R651	1-247-807-31	CARBON	100	5%	1/4W	
R652	1-247-807-31	CARBON	100	5%	1/4W	
R653	1-249-415-11	CARBON	680	5%	1/4W	F
R654	1-247-807-31	CARBON	100	5%	1/4W	
**********						
*	1-659-151-11	CD-R PANEL BOARD				
		**********				
		< CAPACITOR >				
C530	1-162-306-11	CERAMIC	0.01uF	30%	16V	
		< DIODE >				
D509	8-719-058-03	DIODE	SEL5423E-TP15 (▷)			
D510	8-719-058-03	DIODE	SEL5423E-TP15 (▷)			
D514	8-719-033-06	DIODE	SEL5920A-TP15 (◫)			
		< TRANSISTOR >				
Q510	8-729-119-76	TRANSISTOR	2SA1175-HFE			
		< RESISTOR >				
R534	1-249-411-11	CARBON	330	5%	1/4W	
R535	1-249-413-11	CARBON	470	5%	1/4W	F
R536	1-249-415-11	CARBON	680	5%	1/4W	F
R537	1-249-417-11	CARBON	1K	5%	1/4W	F
R538	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R539	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R561	1-249-407-11	CARBON	150	5%	1/4W	F
R562	1-249-407-11	CARBON	150	5%	1/4W	F
R589	1-249-407-11	CARBON	150	5%	1/4W	F
		< SWITCH >				
S534	1-554-303-21	SWITCH, TACTILE (▷)				
S535	1-554-303-21	SWITCH, TACTILE (■)				
S536	1-554-303-21	SWITCH, TACTILE (▮▮)				
S537	1-554-303-21	SWITCH, TACTILE (DISC SKIP)				
S538	1-554-303-21	SWITCH, TACTILE (⏮◁)				
S539	1-554-303-21	SWITCH, TACTILE (▷⏭)				
**********						
*	1-659-161-11	DOOR SW BOARD				
		**********				
		< SWITCH >				
S560	1-572-126-11	SWITCH, PUSH (1 KEY) (▲ OPEN)				
**********						
*	1-659-153-11	H.P. BOARD				
		**********				
		< CAPACITOR >				
C518	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C520	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C521	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		< JACK >				
J501	1-569-113-11	JACK, LARGE TYPE (PHONES)				
**********						
*	1-659-059-12	LED BOARD				
		**********				
		< DIODE >				
D201	8-719-032-98	DIODE	SEL5820A-TP15 (DISC No.)			
		< TRANSISTOR >				
Q201	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		< RESISTOR >				
R201	1-247-863-91	CARBON	22K	5%	1/4W	

Ref.No.	Part No.	Description			Remark
R202	1-249-411-11	CARBON	330	5% 1/4W	
R203	1-249-437-11	CARBON	47K	5% 1/4W	
**********					
*	A-4378-895-A	MAIN BOARD, COMPLETE			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C201	1-124-925-11	ELECT	2.2uF	20%	100V
C202	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C203	1-126-925-11	ELECT	470uF	20%	10V
C204	1-162-282-31	CERAMIC	100PF	10%	50V
C205	1-162-282-31	CERAMIC	100PF	10%	50V
C213	1-164-159-21	CERAMIC	0.1uF		50V
C251	1-124-925-11	ELECT	2.2uF	20%	100V
C252	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C300	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-162-290-31	CERAMIC	470PF	10%	50V
C302	1-136-157-00	FILM	0.022uF	5%	50V
C303	1-126-964-11	ELECT	10uF	20%	50V
C304	1-162-292-31	CERAMIC	680PF	10%	50V
C310	1-162-282-31	CERAMIC	100PF	10%	50V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C312	1-136-157-00	FILM	0.022uF	5%	50V
C313	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-934-11	ELECT	220uF	20%	16V
C321	1-130-479-00	MYLAR	0.0047uF	5%	50V
C322	1-124-903-11	ELECT	1uF	20%	50V
C323	1-126-963-11	ELECT	4.7uF	20%	50V
C324	1-136-165-00	FILM	0.1uF	5%	50V
C326	1-124-903-11	ELECT	1uF	20%	50V
C327	1-124-902-00	ELECT	0.47uF	20%	50V
C328	1-126-963-11	ELECT	4.7uF	20%	50V
C329	1-162-291-31	CERAMIC	560PF	10%	50V
C330	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C331	1-107-599-11	CERAMIC	27PF	5%	500V
C332	1-101-890-00	CERAMIC	75PF	5%	50V
C333	1-162-288-31	CERAMIC	330PF	10%	50V
C334	1-102-973-00	CERAMIC	100PF	5%	50V
C335	1-162-286-21	CERAMIC	220PF	10%	50V
C336	1-162-286-21	CERAMIC	220PF	10%	50V
C340	1-124-925-11	ELECT	2.2uF	20%	100V
C351	1-130-478-00	MYLAR	0.0039uF	5%	50V
C352	1-130-478-00	MYLAR	0.0039uF	5%	50V
C353	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C354	1-130-482-00	MYLAR	0.0082uF	5%	50V
C355	1-124-925-11	ELECT	2.2uF	20%	100V
C356	1-130-487-00	MYLAR	0.022uF	5%	50V

Ref.No.	Part No.	Description			Remark
C357	1-126-934-11	ELECT	220uF	20%	16V
C360	1-130-848-00	FILM	0.0082uF	5%	100V
C381	1-124-455-00	ELECT	100uF	20%	16V
C382	1-124-455-00	ELECT	100uF	20%	16V
C383	1-124-455-00	ELECT	100uF	20%	16V
C384	1-124-455-00	ELECT	100uF	20%	16V
C385	1-126-964-11	ELECT	10uF	20%	50V
C386	1-126-964-11	ELECT	10uF	20%	50V
C388	1-126-934-11	ELECT	220uF	20%	16V
C389	1-162-306-11	CERAMIC	0.01uF	30%	16V
C390	1-162-282-31	CERAMIC	100PF	10%	50V
C391	1-126-934-11	ELECT	220uF	20%	16V
C392	1-126-934-11	ELECT	220uF	20%	16V
C400	1-162-282-31	CERAMIC	100PF	10%	50V
C401	1-162-290-31	CERAMIC	470PF	10%	50V
C402	1-136-157-00	FILM	0.022uF	5%	50V
C403	1-126-964-11	ELECT	10uF	20%	50V
C404	1-162-292-31	CERAMIC	680PF	10%	50V
C410	1-162-282-31	CERAMIC	100PF	10%	50V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C412	1-136-157-00	FILM	0.022uF	5%	50V
C413	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-934-11	ELECT	220uF	20%	16V
C421	1-130-479-00	MYLAR	0.0047uF	5%	50V
C422	1-124-903-11	ELECT	1uF	20%	50V
C423	1-126-963-11	ELECT	4.7uF	20%	50V
C424	1-136-165-00	FILM	0.1uF	5%	50V
C426	1-124-903-11	ELECT	1uF	20%	50V
C427	1-124-902-00	ELECT	0.47uF	20%	50V
C428	1-126-963-11	ELECT	4.7uF	20%	50V
C429	1-162-291-31	CERAMIC	560PF	10%	50V
C430	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C431	1-107-599-11	CERAMIC	27PF	5%	500V
C432	1-101-890-00	CERAMIC	75PF	5%	50V
C433	1-162-288-31	CERAMIC	330PF	10%	50V
C434	1-102-973-00	CERAMIC	100PF	5%	50V
C435	1-162-286-21	CERAMIC	220PF	10%	50V
C452	1-164-159-21	CERAMIC	0.1uF		50V
C453	1-124-903-11	ELECT	1uF	20%	50V
C701	1-162-306-11	CERAMIC	0.01uF	30%	16V
C702	1-126-926-11	ELECT	1000uF	20%	10V
C703	1-126-964-11	ELECT	10uF	20%	50V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C706	1-126-965-11	ELECT	22uF	20%	50V
C707	1-162-206-31	CERAMIC	20PF	5%	50V
C708	1-162-206-31	CERAMIC	20PF	5%	50V
C710	1-162-306-11	CERAMIC	0.01uF	30%	16V
C713	1-162-306-11	CERAMIC	0.01uF	30%	16V
C810	1-162-306-11	CERAMIC	0.01uF	30%	16V

MAIN

Ref.No.	Part No.	Description			Remark
C811	1-162-306-11	CERAMIC	0.01uF	30%	16V
C901	1-136-169-00	FILM	0.22uF	5%	50V
C902	1-136-169-00	FILM	0.22uF	5%	50V
C903	1-136-495-11	FILM	0.068uF	5%	50V
C904	1-136-495-11	FILM	0.068uF	5%	50V
C905	1-136-156-00	FILM	0.018uF	5%	50V
C906	1-136-156-00	FILM	0.018uF	5%	50V
C907	1-130-480-00	MYLAR	0.0056uF	5%	50V
C908	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C909	1-130-474-00	MYLAR	0.0018uF	5%	50V
C910	1-126-964-11	ELECT	10uF	20%	50V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-136-169-00	FILM	0.22uF	5%	50V
C913	1-136-169-00	FILM	0.22uF	5%	50V
C914	1-126-964-11	ELECT	10uF	20%	50V
C922	1-130-483-00	MYLAR	0.01uF	5%	50V
C932	1-124-925-11	ELECT	2.2uF	20%	100V
C933	1-124-902-00	ELECT	0.47uF	20%	50V
C934	1-164-159-21	CERAMIC	0.1uF		50V
C935	1-124-925-11	ELECT	2.2uF	20%	100V
C936	1-126-964-11	ELECT	10uF	20%	50V
C938	1-162-290-31	CERAMIC	470PF	10%	50V
C939	1-126-967-11	ELECT	47uF	20%	10V
C940	1-126-967-11	ELECT	47uF	20%	10V
C951	1-136-169-00	FILM	0.22uF	5%	50V
C952	1-136-169-00	FILM	0.22uF	5%	50V
C953	1-136-495-11	FILM	0.068uF	5%	50V
C954	1-136-495-11	FILM	0.068uF	5%	50V
C955	1-136-156-00	FILM	0.018uF	5%	50V
C956	1-136-156-00	FILM	0.018uF	5%	50V
C957	1-130-480-00	MYLAR	0.0056uF	5%	50V
C958	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C959	1-130-474-00	MYLAR	0.0018uF	5%	50V
C960	1-126-964-11	ELECT	10uF	20%	50V
C961	1-126-964-11	ELECT	10uF	20%	50V
C962	1-136-169-00	FILM	0.22uF	5%	50V
C963	1-136-169-00	FILM	0.22uF	5%	50V
C964	1-126-964-11	ELECT	10uF	20%	50V
C972	1-130-483-00	MYLAR	0.01uF	5%	50V
C1001	1-126-955-11	ELECT	4700uF	20%	35V
C1002	1-126-953-11	ELECT	2200uF	20%	35V
C1004	1-126-916-11	ELECT	1000uF	20%	6.3V
C1005	1-126-964-11	ELECT	10uF	20%	50V
C1006	1-126-933-11	ELECT	100uF	20%	10V
C1007	1-128-499-11	ELECT	220uF	20%	16V
C1008	1-126-933-11	ELECT	100uF	20%	16V
C1009	1-126-943-11	ELECT	2200uF	20%	25V
C1010	1-164-159-21	CERAMIC	0.1uF		50V
C1011	1-164-159-21	CERAMIC	0.1uF		50V
C1012	1-126-964-11	ELECT	10uF	20%	50V

Ref.No.	Part No.	Description			Remark
C1013	1-126-916-11	ELECT	1000uF	20%	6.3V
C1014	1-126-795-11	ELECT	10uF	5%	50V
C1015	1-126-795-11	ELECT	10uF	5%	50V
C1016	1-126-925-11	ELECT	470uF	20%	10V
C1017	1-126-925-11	ELECT	470uF	20%	10V
C1020	1-126-964-11	ELECT	10uF	20%	50V
C1021	1-126-964-11	ELECT	10uF	20%	50V
C1022	1-126-968-11	ELECT	100uF	20%	50V
C1023	1-126-968-11	ELECT	100uF	20%	50V
C1201	1-126-963-11	ELECT	4.7uF	20%	50V
C1202	1-162-294-31	CERAMIC	1000PF	10%	50V
C1203	1-162-286-21	CERAMIC	220PF	10%	50V
C1204	1-126-967-11	ELECT	47uF	20%	10V
C1205	1-126-967-11	ELECT	47uF	20%	50V
C1206	1-126-795-11	ELECT	10uF	5%	50V
C1208	1-126-965-11	ELECT	22uF	20%	50V
C1210	1-136-495-11	FILM	0.068uF	5%	50V
C1211	1-136-495-11	FILM	0.068uF	5%	50V
C1220	1-126-933-11	ELECT	100uF	20%	10V
C1221	1-126-933-11	ELECT	100uF	20%	10V
C1222	1-126-923-11	ELECT	220uF	20%	10V
C1223	1-126-923-11	ELECT	220uF	20%	10V
C1224	1-124-925-11	ELECT	2.2uF	20%	100V
C1245	1-164-159-21	CERAMIC	0.1uF		50V
C1251	1-126-963-11	ELECT	4.7uF	20%	50V
C1252	1-162-294-31	CERAMIC	1000PF	10%	50V
C1253	1-162-286-21	CERAMIC	220PF	10%	50V
C1254	1-126-967-11	ELECT	47uF	20%	10V
C1255	1-126-967-11	ELECT	47uF	20%	50V
C1256	1-126-795-11	ELECT	10uF	5%	50V
C1260	1-136-495-11	FILM	0.068uF	5%	50V
C1261	1-136-495-11	FILM	0.068uF	5%	50V
C1295	1-164-159-21	CERAMIC	0.1uF		50V

< CONNECTOR >

CN201	1-770-067-11	CONNECTOR, FFC/FPC 19P	
* CN203	1-568-936-11	PIN, CONNECTOR 9P	
* CN250	1-568-832-11	SOCKET, CONNECTOR 13P	
CN301	1-564-506-11	PLUG, CONNECTOR 3P	
* CN302	1-564-509-11	PLUG, CONNECTOR 6P	
CN303	1-564-505-11	PLUG, CONNECTOR 2P	
* CN304	1-564-706-11	PIN, CONNECTOR (SMALL TYPE)	4P
* CN305	1-564-708-11	PIN, CONNECTOR (SMALL TYPE)	6P
* CN306	1-564-710-11	PIN, CONNECTOR (SMALL TYPE)	8P
* CN307	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)	3P
* CN308	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)	3P
* CN701	1-568-834-11	SOCKET, CONNECTOR 15P	

< DIODE >

D201	8-719-987-63	DIODE	1N4148M

Ref. No.	Part No.	Description		Remark
D202	8-719-987-63	DIODE	1N4148M	
D381	8-719-200-82	DIODE	11ES2	
D382	8-719-200-82	DIODE	11ES2	
D383	8-719-200-82	DIODE	11ES2	
D384	8-719-987-63	DIODE	1N4148M	
D385	8-719-987-63	DIODE	1N4148M	
D386	8-719-200-82	DIODE	11ES2	
D387	8-719-200-82	DIODE	11ES2	
D450	8-719-987-63	DIODE	1N4148M	
D451	8-719-987-63	DIODE	1N4148M	
D452	8-719-987-63	DIODE	1N4148M	
D453	8-719-987-63	DIODE	1N4148M	
D701	8-719-987-63	DIODE	1N4148M	
D702	8-719-987-63	DIODE	1N4148M	
D703	8-719-987-63	DIODE	1N4148M	
D704	8-719-987-63	DIODE	1N4148M	
D705	8-719-987-63	DIODE	1N4148M	
D706	8-719-200-82	DIODE	11ES2	
D707	8-719-987-63	DIODE	1N4148M	
D708	8-719-987-63	DIODE	1N4148M	
D901	8-719-987-63	DIODE	1N4148M	
D939	8-719-987-63	DIODE	1N4148M	
D940	8-719-987-63	DIODE	1N4148M	
D1001	8-719-200-82	DIODE	11ES2	
D1003	8-719-500-56	DIODE	D3SBA20	
D1007	8-719-987-63	DIODE	1N4148M	
D1008	8-719-001-43	DIODE	UZL-11M1-TA	
D1009	8-719-987-63	DIODE	1N4148M	
D1010	8-719-987-63	DIODE	1N4148M	
D1013	8-719-200-82	DIODE	11ES2	
D1014	8-719-200-82	DIODE	11ES2	
D1017	8-719-200-82	DIODE	11ES2	
D1023	8-719-934-18	DIODE	HZS27-2L	
D1031	8-719-200-82	DIODE	11ES2	
D1032	8-719-200-82	DIODE	11ES2	
D1033	8-719-200-82	DIODE	11ES2	
D1034	8-719-200-82	DIODE	11ES2	
D1035	8-719-200-82	DIODE	11ES2	
D1036	8-719-200-82	DIODE	11ES2	
D1037	8-719-200-82	DIODE	11ES2	
D1038	8-719-200-82	DIODE	11ES2	
D1039	8-719-200-82	DIODE	11ES2	
D1040	8-719-200-82	DIODE	11ES2	
D1041	8-719-200-82	DIODE	11ES2	
D1042	8-719-200-82	DIODE	11ES2	
D1043	8-719-200-82	DIODE	11ES2	
D1044	8-719-200-82	DIODE	11ES2	
D1045	8-719-200-82	DIODE	11ES2	
D1046	8-719-200-82	DIODE	11ES2	
D1047	8-719-200-82	DIODE	11ES2	
D1048	8-719-200-82	DIODE	11ES2	
D1049	8-719-200-82	DIODE	11ES2	
D1050	8-719-200-82	DIODE	11ES2	
D1051	8-719-200-82	DIODE	11ES2	
D1052	8-719-200-82	DIODE	11ES2	
D1053	8-719-200-82	DIODE	11ES2	
D1054	8-719-200-82	DIODE	11ES2	
D1055	8-719-200-82	DIODE	11ES2	
D1056	8-719-200-82	DIODE	11ES2	
D1057	8-719-200-82	DIODE	11ES2	
D1058	8-719-200-82	DIODE	11ES2	
D1059	8-719-987-63	DIODE	1N4148M	
D1060	8-719-200-82	DIODE	11ES2	
D1061	8-719-200-82	DIODE	11ES2	
D1062	8-719-200-82	DIODE	11ES2	
D1063	8-719-200-82	DIODE	11ES2	
D1069	8-719-987-63	DIODE	1N4148M	
D1201	8-719-987-63	DIODE	1N4148M	
D1202	8-719-987-63	DIODE	1N4148M	
D1204	8-719-987-63	DIODE	1N4148M	
D1205	8-719-987-63	DIODE	1N4148M	
D1251	8-719-987-63	DIODE	1N4148M	
D1309	8-719-987-63	DIODE	1N4148M	
D1310	8-719-987-63	DIODE	1N4148M	

< IC >

IC301	8-759-710-59	IC	NJM4580D-D	
IC302	8-759-710-59	IC	NJM4580D-D	
IC303	8-759-289-38	IC	HA12195NT	
IC304	8-759-143-54	IC	uPC1330HA	
IC701	8-759-375-44	IC	TMP87CS64YF-6361	
IC702	8-759-165-80	IC	PST600C-T	
IC802	8-759-000-48	IC	MC14052BCP	
IC901	8-759-331-39	IC	M62427FP	
IC1001	8-759-231-53	IC	TA7805S	
IC1002	8-759-604-86	IC	M5F7807	
IC1003	8-759-604-86	IC	M5F7807	
IC1004	8-759-604-90	IC	M5F7907L	
IC1201	8-749-920-19	IC	STK-4122-2-K	
IC1202	8-759-111-68	IC	uPC1237HA	

< JACK >

J801	1-774-725-11	JACK, PIN 2P (VIDEO IN)	

< COIL >

L214	1-412-473-21	INDUCTOR	
L301	1-410-780-11	INDUCTOR	27mH
L351	1-414-223-11	INDUCTOR	470uH
L401	1-410-780-11	INDUCTOR	27mH
L1201	1-420-872-00	COIL, AIR-CORE	

MAIN

Ref. No.	Part No.	Description				Remark
L1251	1-420-872-00	COIL, AIR-CORE				
		< TRANSISTOR >				
Q301	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q351	8-729-194-57	TRANSISTOR	2SC945-P			
Q352	8-729-194-57	TRANSISTOR	2SC945-P			
Q353	8-729-119-77	TRANSISTOR	2SA1175-FEK			
Q354	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q380	8-729-900-89	TRANSISTOR	DTC144ES			
Q381	8-729-900-65	TRANSISTOR	DTA144ES			
Q382	8-729-900-89	TRANSISTOR	DTC144ES			
Q401	8-729-119-79	TRANSISTOR	2SC2785-FEK			
Q450	8-729-900-65	TRANSISTOR	DTA144ES			
Q451	8-729-900-89	TRANSISTOR	DTC144ES			
Q701	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q820	8-729-422-57	TRANSISTOR	UN4111			
Q901	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q902	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q951	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q952	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q953	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q954	8-729-141-26	TRANSISTOR	2SC3622A-LK			
Q1001	8-729-118-01	TRANSISTOR	2SB1116			
Q1002	8-729-900-36	TRANSISTOR	DTC124ES			
Q1006	8-729-141-83	TRANSISTOR	2SB1094-LK			
Q1011	8-729-209-15	TRANSISTOR	2SD2012			
Q1201	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q1202	8-729-119-78	TRANSISTOR	2SC403SP-51			
Q1203	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q1204	8-729-900-63	TRANSISTOR	DTA124ES			
Q1205	8-729-900-36	TRANSISTOR	DTC124ES			
Q1206	8-729-900-80	TRANSISTOR	DTC114ES			
Q1207	8-729-422-57	TRANSISTOR	UN4111			
Q1251	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
		< RESISTOR >				
R201	1-249-415-11	CARBON	680	5%	1/4W	F
R202	1-249-435-11	CARBON	33K	5%	1/4W	
R203	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R208	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R251	1-249-415-11	CARBON	680	5%	1/4W	F
R252	1-249-435-11	CARBON	33K	5%	1/4W	
R301	1-247-889-00	CARBON	270K	5%	1/4W	
R302	1-249-404-00	CARBON	82	5%	1/4W	F
R303	1-247-882-11	CARBON	130K	5%	1/4W	
R304	1-247-850-11	CARBON	6.2K	5%	1/4W	
R311	1-247-889-00	CARBON	270K	5%	1/4W	
R312	1-249-404-00	CARBON	82	5%	1/4W	F
R313	1-247-882-11	CARBON	130K	5%	1/4W	
R314	1-247-850-11	CARBON	6.2K	5%	1/4W	
R315	1-247-863-91	CARBON	22K	5%	1/4W	
R320	1-249-432-11	CARBON	18K	5%	1/4W	
R321	1-249-429-11	CARBON	10K	5%	1/4W	
R322	1-249-431-11	CARBON	15K	5%	1/4W	
R323	1-249-429-11	CARBON	10K	5%	1/4W	
R324	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R325	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R326	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R327	1-247-840-00	CARBON	2.4K	5%	1/4W	
R328	1-247-863-91	CARBON	22K	5%	1/4W	
R329	1-249-417-11	CARBON	1K	5%	1/4W	F
R331	1-249-430-11	CARBON	12K	5%	1/4W	
R351	1-249-434-11	CARBON	27K	5%	1/4W	
R352	1-249-434-11	CARBON	27K	5%	1/4W	
R353	1-249-389-11	CARBON	4.7	5%	1/4W	F
R354	1-249-389-11	CARBON	4.7	5%	1/4W	F
R355	1-249-429-11	CARBON	10K	5%	1/4W	
R381	1-249-413-11	CARBON	470	5%	1/4W	F
R382	1-249-413-11	CARBON	470	5%	1/4W	F
R383	1-249-413-11	CARBON	470	5%	1/4W	F
R384	1-249-413-11	CARBON	470	5%	1/4W	F
R387	1-249-417-11	CARBON	1K	5%	1/4W	F
R388	1-249-429-11	CARBON	10K	5%	1/4W	
R390	1-249-417-11	CARBON	1K	5%	1/4W	F
⚠R391	1-215-905-11	METAL OXIDE	10	5%	3W	F
R401	1-247-889-00	CARBON	270K	5%	1/4W	
R402	1-249-404-00	CARBON	82	5%	1/4W	F
R403	1-247-882-11	CARBON	130K	5%	1/4W	
R404	1-247-850-11	CARBON	6.2K	5%	1/4W	
R411	1-247-889-00	CARBON	270K	5%	1/4W	
R412	1-249-404-00	CARBON	82	5%	1/4W	F
R413	1-247-882-11	CARBON	130K	5%	1/4W	
R414	1-247-850-11	CARBON	6.2K	5%	1/4W	
R415	1-247-863-91	CARBON	22K	5%	1/4W	
R421	1-249-429-11	CARBON	10K	5%	1/4W	
R422	1-249-431-11	CARBON	15K	5%	1/4W	
R423	1-249-429-11	CARBON	10K	5%	1/4W	
R424	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R425	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R426	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R427	1-247-840-00	CARBON	2.4K	5%	1/4W	
R428	1-247-863-91	CARBON	22K	5%	1/4W	
R429	1-249-417-11	CARBON	1K	5%	1/4W	F
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R450	1-249-429-11	CARBON	10K	5%	1/4W	
R451	1-249-429-11	CARBON	10K	5%	1/4W	
R452	1-249-429-11	CARBON	10K	5%	1/4W	
R453	1-249-429-11	CARBON	10K	5%	1/4W	
R454	1-249-429-11	CARBON	10K	5%	1/4W	
R455	1-249-429-11	CARBON	10K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R456	1-249-429-11	CARBON	10K	5%	1/4W	
R457	1-247-864-11	CARBON	24K	5%	1/4W	
R458	1-249-429-11	CARBON	10K	5%	1/4W	
R459	1-249-440-11	CARBON	82K	5%	1/4W	
R460	1-247-862-11	CARBON	20K	5%	1/4W	
R461	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R462	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R463	1-249-429-11	CARBON	10K	5%	1/4W	
R464	1-249-429-11	CARBON	10K	5%	1/4W	
R701	1-249-429-11	CARBON	10K	5%	1/4W	
R702	1-249-437-11	CARBON	47K	5%	1/4W	
R703	1-249-437-11	CARBON	47K	5%	1/4W	
R704	1-249-429-11	CARBON	10K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-429-11	CARBON	10K	5%	1/4W	
R708	1-249-429-11	CARBON	10K	5%	1/4W	
R709	1-249-429-11	CARBON	10K	5%	1/4W	
R710	1-249-429-11	CARBON	10K	5%	1/4W	
R712	1-249-429-11	CARBON	10K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-249-429-11	CARBON	10K	5%	1/4W	
R715	1-249-429-11	CARBON	10K	5%	1/4W	
R716	1-247-807-31	CARBON	100	5%	1/4W	
R717	1-247-807-31	CARBON	100	5%	1/4W	
R718	1-247-807-31	CARBON	100	5%	1/4W	
R719	1-247-807-31	CARBON	100	5%	1/4W	
R720	1-247-807-31	CARBON	100	5%	1/4W	
R721	1-247-807-31	CARBON	100	5%	1/4W	
R724	1-247-807-31	CARBON	100	5%	1/4W	
R725	1-247-807-31	CARBON	100	5%	1/4W	
R726	1-247-807-31	CARBON	100	5%	1/4W	
R727	1-247-807-31	CARBON	100	5%	1/4W	
R728	1-247-807-31	CARBON	100	5%	1/4W	
R729	1-247-807-31	CARBON	100	5%	1/4W	
R730	1-247-807-31	CARBON	100	5%	1/4W	
R731	1-247-807-31	CARBON	100	5%	1/4W	
R732	1-247-807-31	CARBON	100	5%	1/4W	
R733	1-247-807-31	CARBON	100	5%	1/4W	
R734	1-247-807-31	CARBON	100	5%	1/4W	
R735	1-247-807-31	CARBON	100	5%	1/4W	
R736	1-247-807-31	CARBON	100	5%	1/4W	
R737	1-247-807-31	CARBON	100	5%	1/4W	
R738	1-249-431-11	CARBON	15K	5%	1/4W	
R739	1-249-415-11	CARBON	680	5%	1/4W	F
R742	1-247-807-31	CARBON	100	5%	1/4W	
R743	1-247-807-31	CARBON	100	5%	1/4W	
R753	1-247-807-31	CARBON	100	5%	1/4W	
R755	1-247-807-31	CARBON	100	5%	1/4W	
R762	1-249-429-11	CARBON	10K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-429-11	CARBON	10K	5%	1/4W	
R771	1-249-429-11	CARBON	10K	5%	1/4W	
R772	1-249-429-11	CARBON	10K	5%	1/4W	
R773	1-249-429-11	CARBON	10K	5%	1/4W	
R821	1-249-417-11	CARBON	1K	5%	1/4W	F
R822	1-249-441-11	CARBON	100K	5%	1/4W	
R825	1-247-887-00	CARBON	220K	5%	1/4W	
R826	1-249-441-11	CARBON	100K	5%	1/4W	
R871	1-249-417-11	CARBON	1K	5%	1/4W	F
R872	1-249-441-11	CARBON	100K	5%	1/4W	
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R902	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R904	1-249-429-11	CARBON	10K	5%	1/4W	F
R905	1-249-441-11	CARBON	100K	5%	1/4W	
R906	1-247-895-91	CARBON	470K	5%	1/4W	
R907	1-249-437-11	CARBON	47K	5%	1/4W	
R908	1-249-429-11	CARBON	10K	5%	1/4W	
R909	1-247-819-91	CARBON	330	5%	1/4W	F
R910	1-249-429-11	CARBON	10K	5%	1/4W	
R911	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R912	1-249-441-11	CARBON	100K	5%	1/4W	
R913	1-249-429-11	CARBON	10K	5%	1/4W	
R914	1-249-437-11	CARBON	47K	5%	1/4W	
R920	1-249-441-11	CARBON	100K	5%	1/4W	
R921	1-249-425-11	CARBON	4.7K	5%	1/4W	
R922	1-249-429-11	CARBON	10K	5%	1/4W	
R923	1-247-903-00	CARBON	1M	5%	1/4W	
R938	1-247-807-31	CARBON	100	5%	1/4W	
R940	1-249-429-11	CARBON	10K	5%	1/4W	
R941	1-249-429-11	CARBON	10K	5%	1/4W	
R942	1-249-429-11	CARBON	10K	5%	1/4W	
R951	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R952	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R954	1-249-429-11	CARBON	10K	5%	1/4W	F
R955	1-249-441-11	CARBON	100K	5%	1/4W	
R956	1-247-895-91	CARBON	470K	5%	1/4W	
R957	1-249-437-11	CARBON	47K	5%	1/4W	
R958	1-249-429-11	CARBON	10K	5%	1/4W	
R959	1-247-819-91	CARBON	330	5%	1/4W	F
R960	1-249-429-11	CARBON	10K	5%	1/4W	
R961	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R962	1-249-441-11	CARBON	100K	5%	1/4W	
R963	1-249-429-11	CARBON	10K	5%	1/4W	
R964	1-249-437-11	CARBON	47K	5%	1/4W	
R970	1-247-903-00	CARBON	1M	5%	1/4W	
R973	1-247-903-00	CARBON	1M	5%	1/4W	
R1001	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1002	1-247-815-91	CARBON	220	5%	1/4W	
R1011	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1023	1-249-417-11	CARBON	1K	5%	1/4W	F

MAIN PANEL

Ref.No.	Part No.	Description				Remark
R1201	1-249-417-11	CARBON	1K	5%	1/4W	F
R1202	1-249-413-11	CARBON	470	5%	1/4W	F
R1203	1-249-415-11	CARBON	680	5%	1/4W	F
R1204	1-249-437-11	CARBON	47K	5%	1/4W	
R1205	1-260-103-11	CARBON	2.2K	5%	1/2W	
R1207	1-260-103-11	CARBON	2.2K	5%	1/2W	
⚠R1210	1-208-602-11	WIREWOUND	0.22	10%	2W	F
R1211	1-249-417-11	CARBON	1K	5%	1/4W	F
R1212	1-249-431-11	CARBON	15K	5%	1/4W	
R1213	1-249-441-11	CARBON	100K	5%	1/4W	
R1214	1-260-099-11	CARBON	1K	5%	1/2W	
R1217	1-260-099-11	CARBON	1K	5%	1/2W	
R1218	1-260-076-11	CARBON	10	5%	1/2W	
R1220	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1221	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1222	1-247-815-91	CARBON	220	5%	1/4W	
R1223	1-247-815-91	CARBON	220	5%	1/4W	
R1224	1-249-429-11	CARBON	10K	5%	1/4W	
R1225	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R1226	1-216-453-00	METAL OXIDE	270	5%	2W	F
R1227	1-249-429-11	CARBON	10K	5%	1/4W	
R1228	1-247-891-00	CARBON	330K	5%	1/4W	
R1229	1-249-429-11	CARBON	10K	5%	1/4W	
R1230	1-249-429-11	CARBON	10K	5%	1/4W	
R1231	1-249-417-11	CARBON	1K	5%	1/4W	F
R1233	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1234	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R1235	1-249-435-11	CARBON	33K	5%	1/4W	
R1236	1-249-441-11	CARBON	100K	5%	1/4W	
R1237	1-249-429-11	CARBON	10K	5%	1/4W	
R1240	1-249-438-11	CARBON	56K	5%	1/4W	
R1241	1-247-791-91	CARBON	22	5%	1/4W	
R1242	1-249-429-11	CARBON	10K	5%	1/4W	
R1243	1-249-393-11	CARBON	10	5%	1/4W	F
R1245	1-247-863-91	CARBON	22K	5%	1/4W	
R1250	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R1251	1-249-417-11	CARBON	1K	5%	1/4W	F
R1252	1-249-413-11	CARBON	470	5%	1/4W	F
R1253	1-249-415-11	CARBON	680	5%	1/4W	F
R1254	1-249-437-11	CARBON	47K	5%	1/4W	
R1255	1-260-103-11	CARBON	2.2K	5%	1/2W	
R1257	1-260-103-11	CARBON	2.2K	5%	1/2W	
⚠R1260	1-208-602-11	WIREWOUND	0.22	10%	2W	F
R1261	1-249-417-11	CARBON	1K	5%	1/4W	F
R1262	1-249-431-11	CARBON	15K	5%	1/4W	
R1263	1-249-441-11	CARBON	100K	5%	1/4W	
R1268	1-260-076-11	CARBON	10	5%	1/2W	
R1270	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1271	1-249-389-11	CARBON	4.7	5%	1/4W	F
R1272	1-247-815-91	CARBON	220	5%	1/4W	
R1273	1-247-815-91	CARBON	220	5%	1/4W	
R1290	1-249-437-11	CARBON	47K	5%	1/4W	
R1295	1-247-863-91	CARBON	22K	5%	1/4W	
R1303	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R1304	1-249-427-11	CARBON	6.8K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV301	1-238-600-11	RES, ADJ, CARBON 10K				
RV302	1-238-600-11	RES, ADJ, CARBON 10K				
RV303	1-238-600-11	RES, ADJ, CARBON 10K				
RV304	1-238-603-11	RES, ADJ, CARBON 100K				
RV380	1-238-599-11	RES, ADJ, CARBON 4.7K				
RV401	1-238-600-11	RES, ADJ, CARBON 10K				
RV402	1-238-600-11	RES, ADJ, CARBON 10K				
RV403	1-238-600-11	RES, ADJ, CARBON 10K				
RV404	1-238-603-11	RES, ADJ, CARBON 100K				
		< RELAY >				
RY1201	1-515-921-11	RELAY (12V)				
		< TRANSFORMER >				
T350	1-433-349-11	TRANSFORMER, BIAS OSCILLATION				
		< TERMINAL >				
TM1201	1-537-240-31	TERMINAL BOARD (CHECKER PIN) (SPEAKER)				
		< VIBRATOR >				
X701	1-579-175-11	VIBRATOR, CERAMIC (10MHz)				
X702	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)				
**********						
*	A-4378-889-A	PANEL BOARD, COMPLETE				
		**********				
*	4-978-168-01	HOLDER, FL TUBE				
		< CAPACITOR >				
C501	1-162-286-21	CERAMIC	220PF	10%	50V	
C502	1-162-286-21	CERAMIC	220PF	10%	50V	
C503	1-162-286-21	CERAMIC	220PF	10%	50V	
C504	1-162-286-21	CERAMIC	220PF	10%	50V	
C505	1-162-286-21	CERAMIC	220PF	10%	50V	
C506	1-162-286-21	CERAMIC	220PF	10%	50V	
C507	1-162-286-21	CERAMIC	220PF	10%	50V	
C508	1-162-286-21	CERAMIC	220PF	10%	50V	
C509	1-162-286-21	CERAMIC	220PF	10%	50V	
C510	1-162-286-21	CERAMIC	220PF	10%	50V	
C511	1-162-286-21	CERAMIC	220PF	10%	50V	
C512	1-162-286-21	CERAMIC	220PF	10%	50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
C513	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C514	1-126-967-11	ELECT	47uF	20%	16V	
C515	1-164-159-11	CERAMIC	0.1uF		50V	
C516	1-124-584-00	ELECT	100uF	20%	10V	
C517	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C519	1-164-159-21	CERAMIC	0.1uF		50V	
C522	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C523	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C524	1-164-159-21	CERAMIC	0.1uF		50V	
C525	1-124-903-11	ELECT	1uF	20%	50V	
C526	1-164-159-21	CERAMIC	0.1uF		50V	
C527	1-124-903-11	ELECT	1uF	20%	50V	
C531	1-162-286-21	CERAMIC	220PF	10%	50V	
C532	1-162-286-21	CERAMIC	220PF	10%	50V	
C533	1-162-286-21	CERAMIC	220PF	10%	50V	
C534	1-162-286-21	CERAMIC	220PF	10%	50V	
C535	1-162-286-21	CERAMIC	220PF	10%	50V	
C536	1-162-286-21	CERAMIC	220PF	10%	50V	
C537	1-162-286-21	CERAMIC	220PF	10%	50V	
C538	1-162-286-21	CERAMIC	220PF	10%	50V	
C539	1-162-286-21	CERAMIC	220PF	10%	50V	
C540	1-162-286-21	CERAMIC	220PF	10%	50V	
C541	1-162-286-21	CERAMIC	220PF	10%	50V	
C542	1-162-286-21	CERAMIC	220PF	10%	50V	
C543	1-162-286-21	CERAMIC	220PF	10%	50V	
C544	1-162-286-21	CERAMIC	220PF	10%	50V	
C545	1-162-286-21	CERAMIC	220PF	10%	50V	
C546	1-162-286-21	CERAMIC	220PF	10%	50V	
C547	1-162-286-21	CERAMIC	220PF	10%	50V	
C548	1-162-286-21	CERAMIC	220PF	10%	50V	
C549	1-162-286-21	CERAMIC	220PF	10%	50V	
C550	1-162-286-21	CERAMIC	220PF	10%	50V	
C551	1-162-286-21	CERAMIC	220PF	10%	50V	
C561	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
* CN501	1-568-834-11	SOCKET, CONNECTOR 15P				
		< DIODE >				
D500	8-719-812-44	DIODE	TLO124 (SELECT 5)			
D501	8-719-812-44	DIODE	TLO124 (EFFECT)			
D502	8-719-812-44	DIODE	TLO124 (ROCK)			
D503	8-719-812-44	DIODE	TLO124 (JAZZ)			
D504	8-719-812-44	DIODE	TLO124 (POPS)			
D505	8-719-812-44	DIODE	TLO124 (P.FILE)			
D506	8-719-812-44	DIODE	TLO124 (CLASSIC)			
D507	8-719-812-44	DIODE	TLO124 (ENTER/ENXT)			
D508	8-719-812-44	DIODE	TLO124 (SALSA)			
D512	8-719-058-03	DIODE	SEL5423E-TP15 (TUNER/BAND)			

Ref.No.	Part No.	Description				Remark
D513	8-719-058-03	DIODE	SEL5423E-TP15 (TUNER/BAND)			
D560	8-719-010-40	DIODE	UZ-5.6BS			
		< FLUORESCENT INDICATOR >				
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC501	8-759-375-45	IC	ASD042			
IC502	8-759-339-53	IC	GP1U28XB			
		< TRANSISTOR >				
Q501	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q502	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q503	8-729-422-57	TRANSISTOR	UN4111			
Q504	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q505	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q506	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q507	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q508	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q509	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q511	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q521	8-729-422-57	TRANSISTOR	UN4111			
		< RESISTOR >				
R500	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R501	1-249-401-11	CARBON	47	5%	1/4W	F
R502	1-249-403-11	CARBON	68	5%	1/4W	F
R513	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R514	1-249-401-11	CARBON	47	5%	1/4W	F
R515	1-249-403-11	CARBON	68	5%	1/4W	F
R516	1-247-807-31	CARBON	100	5%	1/4W	
R517	1-249-407-11	CARBON	150	5%	1/4W	F
R518	1-249-407-11	CARBON	150	5%	1/4W	F
R519	1-247-815-91	CARBON	220	5%	1/4W	
R520	1-249-411-11	CARBON	330	5%	1/4W	
R521	1-249-413-11	CARBON	470	5%	1/4W	F
R522	1-249-415-11	CARBON	680	5%	1/4W	F
R523	1-249-417-11	CARBON	1K	5%	1/4W	F
R524	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R525	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R526	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R527	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R528	1-249-401-11	CARBON	47	5%	1/4W	F
R529	1-249-403-11	CARBON	68	5%	1/4W	F
R530	1-247-807-31	CARBON	100	5%	1/4W	
R531	1-249-407-11	CARBON	150	5%	1/4W	F
R532	1-249-407-11	CARBON	150	5%	1/4W	F
R533	1-247-815-91	CARBON	220	5%	1/4W	
R540	1-249-419-11	CARBON	1.5K	5%	1/4W	F

PANEL

Ref.No.	Part No.	Description				Remark
R541	1-249-401-11	CARBON	47	5%	1/4W	F
R542	1-249-403-11	CARBON	68	5%	1/4W	F
R543	1-247-807-31	CARBON	100	5%	1/4W	
R544	1-249-407-11	CARBON	150	5%	1/4W	F
R545	1-249-407-11	CARBON	150	5%	1/4W	F
R546	1-247-815-91	CARBON	220	5%	1/4W	
R547	1-249-411-11	CARBON	330	5%	1/4W	
R550	1-247-815-91	CARBON	220	5%	1/4W	
R551	1-247-815-91	CARBON	220	5%	1/4W	
R552	1-247-815-91	CARBON	220	5%	1/4W	
R553	1-247-815-91	CARBON	220	5%	1/4W	
R554	1-247-815-91	CARBON	220	5%	1/4W	
R555	1-247-815-91	CARBON	220	5%	1/4W	
R556	1-247-815-91	CARBON	220	5%	1/4W	
R557	1-247-815-91	CARBON	220	5%	1/4W	
R558	1-249-407-11	CARBON	150	5%	1/4W	F
R559	1-249-407-11	CARBON	150	5%	1/4W	F
R563	1-249-429-11	CARBON	10K	5%	1/4W	
R564	1-249-401-11	CARBON	47	5%	1/4W	F
R565	1-249-429-11	CARBON	10K	5%	1/4W	
R566	1-249-429-11	CARBON	10K	5%	1/4W	
R567	1-249-429-11	CARBON	10K	5%	1/4W	
R568	1-249-429-11	CARBON	10K	5%	1/4W	
R569	1-249-429-11	CARBON	10K	5%	1/4W	
R570	1-249-437-11	CARBON	47K	5%	1/4W	
R571	1-249-429-11	CARBON	10K	5%	1/4W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R573	1-249-429-11	CARBON	10K	5%	1/4W	
R574	1-249-429-11	CARBON	10K	5%	1/4W	
R575	1-249-429-11	CARBON	10K	5%	1/4W	
R576	1-249-429-11	CARBON	10K	5%	1/4W	
R577	1-247-903-00	CARBON	1M	5%	1/4W	
R578	1-249-429-11	CARBON	10K	5%	1/4W	
R579	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R580	1-249-429-11	CARBON	10K	5%	1/4W	
R581	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R582	1-247-807-31	CARBON	100	5%	1/4W	
R583	1-247-807-31	CARBON	100	5%	1/4W	
R584	1-247-807-31	CARBON	100	5%	1/4W	
R585	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R586	1-247-807-31	CARBON	100	5%	1/4W	
R587	1-247-807-31	CARBON	100	5%	1/4W	
R590	1-247-815-91	CARBON	220	5%	1/4W	
R591	1-249-437-11	CARBON	47K	5%	1/4W	
R592	1-249-437-11	CARBON	47K	5%	1/4W	
R593	1-249-437-11	CARBON	47K	5%	1/4W	
R594	1-249-437-11	CARBON	47K	5%	1/4W	
R595	1-249-437-11	CARBON	47K	5%	1/4W	
R596	1-249-437-11	CARBON	47K	5%	1/4W	
R597	1-249-437-11	CARBON	47K	5%	1/4W	
R598	1-249-437-11	CARBON	47K	5%	1/4W	
R599	1-249-437-11	CARBON	47K	5%	1/4W	
R600	1-249-437-11	CARBON	47K	5%	1/4W	
R601	1-249-437-11	CARBON	47K	5%	1/4W	
R602	1-249-437-11	CARBON	47K	5%	1/4W	
R603	1-249-437-11	CARBON	47K	5%	1/4W	
R604	1-249-437-11	CARBON	47K	5%	1/4W	
R605	1-249-437-11	CARBON	47K	5%	1/4W	
R606	1-249-437-11	CARBON	47K	5%	1/4W	
R607	1-249-437-11	CARBON	47K	5%	1/4W	
R608	1-247-807-31	CARBON	100	5%	1/4W	
R609	1-247-807-31	CARBON	100	5%	1/4W	
R610	1-247-807-31	CARBON	100	5%	1/4W	
R611	1-247-863-91	CARBON	22K	5%	1/4W	

< SWITCH >

S500	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)
S501	1-554-303-21	SWITCH, TACTILE (SLEEP)
S502	1-554-303-21	SWITCH, TACTILE (CLOCK SET)
S513	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)
S514	1-554-303-21	SWITCH, TACTILE (DISPLAY/DEMO)
S515	1-554-303-21	SWITCH, TACTILE (▽)
S516	1-554-303-21	SWITCH, TACTILE (◁)
S517	1-554-303-21	SWITCH, TACTILE (△)
S518	1-554-303-21	SWITCH, TACTILE (▷)
S519	1-554-303-21	SWITCH, TACTILE (-)
S520	1-554-303-21	SWITCH, TACTILE (+)
S521	1-554-303-21	SWITCH, TACTILE (TUNING MODE)
S522	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY)
S523	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)
S524	1-554-303-21	SWITCH, TACTILE (DBFB)
S525	1-554-303-21	SWITCH, TACTILE (S-SURROUND)
S526	1-554-303-21	SWITCH, TACTILE (DOLBY NR)
S527	1-554-303-21	SWITCH, TACTILE (FILE 1)
S528	1-554-303-21	SWITCH, TACTILE (FILE 2)
S529	1-554-303-21	SWITCH, TACTILE (FILE 3)
S530	1-554-303-21	SWITCH, TACTILE (FILE 4)
S531	1-554-303-21	SWITCH, TACTILE (FILE SELECT)
S532	1-554-303-21	SWITCH, TACTILE (FILE 5)
S533	1-554-303-21	SWITCH, TACTILE (EQ MEMORY)
S541	1-554-303-21	SWITCH, TACTILE (DAILY 2)
S542	1-554-303-21	SWITCH, TACTILE (DAILY 1)
S543	1-554-303-21	SWITCH, TACTILE (TIMER SET)
S544	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)
S545	1-554-303-21	SWITCH, TACTILE (FUNCTION)
S546	1-554-303-21	SWITCH, TACTILE (EFFECT)
S550	1-467-869-11	ENCODER, ROTARY (VOLUME)

< VIBRATOR >

X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)

Ref. No.	Part No.	Description			Remark
**********					
*	1-659-058-12	TABLE SENSOR BOARD			
		**********			
		< IC >			
IC202	8-749-924-18	PHOTO INTERRUPTER RPI-1391			
		< RESISTOR >			
R207	1-249-416-11	CARBON	820	5% 1/4W	F
**********					
*	A-4303-510-A	TCB BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-162-294-31	CERAMIC	0.001uF	10%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-164-159-21	CERAMIC	0.1uF		50V
C5	1-162-306-11	CERAMIC	10000PF	30%	16V
C6	1-162-306-11	CERAMIC	10000PF	30%	16V
C7	1-101-004-00	CERAMIC	0.01uF		50V
C8	1-162-306-11	CERAMIC	10000PF	30%	16V
C9	1-162-306-11	CERAMIC	10000PF	30%	16V
C11	1-164-159-21	CERAMIC	0.1uF		50V
C12	1-162-198-31	CERAMIC	8.2PF	10%	50V
C14	1-162-306-11	CERAMIC	10000PF	30%	16V
C21	1-102-959-00	CERAMIC	22PF	5%	50V
C22	1-164-159-21	CERAMIC	0.1uF		50V
C23	1-162-306-11	CERAMIC	10000PF	30%	16V
C24	1-126-967-11	ELECT	47uF	20%	16V
C25	1-162-306-11	CERAMIC	10000PF	30%	16V
C26	1-126-964-11	ELECT	10uF	20%	50V
C27	1-164-159-21	CERAMIC	0.1uF		50V
C28	1-124-925-11	ELECT	2.2uF	20%	100V
C29	1-102-518-11	CERAMIC	33PF	5%	50V
C30	1-162-294-31	CERAMIC	0.001uF	10%	50V
C31	1-162-306-11	CERAMIC	10000PF	30%	16V
C41	1-126-933-11	ELECT	100uF	20%	10V
C42	1-162-306-11	CERAMIC	10000PF	30%	16V
C43	1-126-962-11	ELECT	3.3uF	20%	50V
C44	1-162-306-11	CERAMIC	10000PF	30%	16V
C45	1-124-589-11	ELECT	47uF	20%	16V
C46	1-162-600-11	CERAMIC	4700PF	30%	16V
C47	1-162-294-31	CERAMIC	0.001uF	10%	50V
C48	1-126-160-11	ELECT	1uF	20%	50V
C49	1-136-160-00	METALIZED FILM	0.039uF	5%	50V
C50	1-136-160-00	METALIZED FILM	0.039uF	5%	50V
C51	1-162-600-11	CERAMIC	4700PF	30%	16V
C52	1-162-600-11	CERAMIC	4700PF	30%	16V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-126-157-11	ELECT	10uF	20%	16V
C55	1-126-964-11	ELECT	10uF	20%	50V
C56	1-126-964-11	ELECT	10uF	20%	50V
C57	1-164-159-21	CERAMIC	0.1uF		50V F
C58	1-162-306-11	CERAMIC	10000PF	30%	16V
C59	1-164-159-21	CERAMIC	0.1uF		50V F
C61	1-164-159-21	CERAMIC	0.1uF		50V F
C62	1-126-967-11	ELECT	47uF	20%	16V
C63	1-164-159-21	CERAMIC	0.1uF		50V F
C64	1-124-902-00	ELECT	0.47uF	20%	50V
C65	1-124-903-11	ELECT	1.0uF	20%	50V
C66	1-124-903-11	ELECT	1.0uF	20%	50V
C67	1-126-964-11	ELECT	10uF	20%	50V
C68	1-162-306-11	CERAMIC	10000PF	30%	16V
C69	1-162-306-11	CERAMIC	10000PF	30%	16V
C70	1-162-306-11	CERAMIC	10000PF	30%	16V
C71	1-162-306-11	CERAMIC	10000PF	30%	16V
C73	1-162-306-11	CERAMIC	10000PF	30%	16V
C74	1-126-964-11	ELECT	10uF	20%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-832-11	SOCKET, CONNECTOR 13P			
		< DIODE >			
D1	8-719-933-33	DIODE	UZL-6L1-TA		
D2	8-719-987-63	DIODE	1N4148M-TA		
		< FRONTEND >			
FE1	1-233-533-11	ENCAPSULATED COMPONENT			
FE2	1-239-260-11	ENCAPSULATED COMPONENT			
		< IC >			
IC1	8-759-288-54	IC	LC72130		
IC2	8-759-176-03	IC	LA1835		
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< COIL >			
L41	1-410-119-11	MICRO INDUCTOR (EL TYPE)			
		< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS			

TCB TRANSFORMER

Ref.No.	Part No.	Description				Remark
LPF42	1-239-845-11	FILTER, LOW PASS				
		< TRANSISTOR >				
Q1	8-729-230-XX	TRANSISTOR	2SC2669OY-TPE4			
Q2	8-729-230-XX	TRANSISTOR	2SC2669OY-TPE4			
Q3	8-729-230-XX	TRANSISTOR	2SC2669OY-TPE4			
Q4	8-729-230-XX	TRANSISTOR	2SC2669OY-TPE4			
Q5	8-729-422-57	TRANSISTOR	BN1A4M-TP			
		< RESISTOR >				
R1	1-249-401-11	CARBON	47	5%	1/4W	F
R2	1-249-411-11	CARBON	330	5%	1/4W	
R3	1-249-411-11	CARBON	330	5%	1/4W	
R5	1-249-411-11	CARBON	330	5%	1/4W	
R6	1-247-863-91	CARBON	22K	5%	1/4W	
R7	1-249-411-11	CARBON	330	5%	1/4W	
R8	1-249-411-11	CARBON	330	5%	1/4W	
R9	1-247-863-91	CARBON	22K	5%	1/4W	
R10	1-249-411-11	CARBON	330	5%	1/4W	
R11	1-247-863-91	CARBON	22K	5%	1/4W	
R12	1-249-411-11	CARBON	330	5%	1/4W	
R13	1-249-411-11	CARBON	330	5%	1/4W	
R14	1-247-863-91	CARBON	22K	5%	1/4W	
R15	1-249-429-11	CARBON	10K	5%	1/4W	
R16	1-249-437-11	CARBON	47K	5%	1/4W	
R19	1-249-399-11	CARBON	33	5%	1/4W	F
R21	1-247-807-31	CARBON	100	5%	1/4W	
R22	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R23	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R24	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R25	1-247-807-31	CARBON	100	5%	1/4W	
R26	1-249-411-11	CARBON	330	5%	1/4W	
R27	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R28	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R29	1-249-417-11	CARBON	1K	5%	1/4W	F
R30	1-249-417-11	CARBON	1K	5%	1/4W	F
R31	1-249-417-11	CARBON	1K	5%	1/4W	F
R32	1-249-417-11	CARBON	1K	5%	1/4W	F
R33	1-247-807-31	CARBON	100	5%	1/4W	
R34	1-249-429-11	CARBON	10K	5%	1/4W	
R35	1-249-429-11	CARBON	10K	5%	1/4W	
R36	1-249-437-11	CARBON	47K	5%	1/4W	
R37	1-249-417-11	CARBON	1K	5%	1/4W	F
R41	1-249-429-11	CARBON	10K	5%	1/4W	
R43	1-249-421-11	CARBON	2.2K	5%	1/4W	
R44	1-249-421-11	CARBON	2.2K	5%	1/4W	
R46	1-249-442-11	CARBON	510	5%	1/4W	
R47	1-249-403-11	CARBON	68	5%	1/4W	F
R48	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R49	1-249-393-11	CARBON	10	5%	1/4W	F
R50	1-249-429-11	CARBON	10K	5%	1/4W	
R51	1-249-441-11	CARBON	100K	5%	1/4W	
R52	1-249-429-11	CARBON	10K	5%	1/4W	
R53	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R54	1-249-425-11	CARBON	4.7K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV41	1-238-600-11	RES, ADJ, CARBON 10K				
RV42	1-238-601-11	RES, ADJ, CARBON 22K				
		< TERMINAL >				
TM1	1-537-238-21	TERMINAL BOARD (ANTENNA)				
		< VIBRATOR >				
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)				
X41	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)				
X42	1-760-220-11	FILTER, CERAMIC (10.7MHz)				
X43	1-527-981-00	FILTER, CERAMIC (450KHz)				
**********						
*	1-659-155-11	TRANSFORMER BOARD				
		**********				
	1-533-217-31	HOLDER, FUSE				
		< CAPACITOR >				
C1611	1-164-159-21	CERAMIC	0.1		50V	
		< CONNECTOR >				
CN1601	1-774-108-11	PIN, CONNECTOR (PC BOARD)				
CN1602	1-564-521-11	PLUG, CONNECTOR 6P				
		< RESISTOR >				
⚠R1600	1-202-725-00	SOLID	3.3M	10%	1/2W	
⚠R1601	1-217-637-00	FUSIBLE	1	5%	1/4W	F
**********						
		MISCELLANEOUS				
		**********				
156	1-769-977-11	WIRE (FLAT TYPE) (13 CORE)				
157	1-776-238-11	WIRE (FLAT TYPE) (19 CORE)				
158	1-773-024-11	WIRE (FLAT TYPE) (15 CORE)				
221	1-698-705-11	MOTOR, WIRE				
251	1-500-322-11	HEAD, WIRE (E) (DECK B)				
253	1-500-319-11	HEAD, HOLDER (DECK B)				
255	1-500-320-11	HEAD, WIRE R/P (DECK B)				
256	1-500-321-11	HEAD, WIRE P.B (DECK A)				
314	1-762-610-11	SWITCH, PLATE				
315	1-762-613-11	SWITCH, WIRE LEAF (DECK A)				

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
316	1-762-612-11	SWITCH, WIRE LEAF (DECK B)	
* 357	1-452-538-11	MAGNET	
⚠401	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S-N	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
⚠CNP1601	1-575-042-21	CORD, POWER	
⚠F1601	1-533-420-11	FUSE, GLASS CYLINDRICAL (DIA. 5) (5A/125V)	
⚠F1602	1-533-420-11	FUSE, GLASS CYLINDRICAL (DIA. 5) (5A/125V)	
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT	
HE901	1-500-318-11	HEAD, E (ERASE) (DECK B)	
HP901	1-543-424-21	HEAD (PLAYBACK) (DECK A)	
HRP901	1-543-424-21	HEAD (RECORD/PLAYBACK) (DECK B)	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M201	A-4660-977-A	MOTOR ASSY (TABLE)	
M901	X-3372-231-1	MOTOR ASSY (CAPSTAN/REEL)	
S1	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK A)	
S2	1-571-745-11	SWITCH, LEAF (PLAY) (DECK A)	
S3	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK A)	
S4	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK B)	
S5	1-571-745-11	SWITCH, LEAF (PLAY) (DECK B)	
S6	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK B)	
S7	1-571-556-11	SWITCH, LEAF (REC) (DECK B)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
⚠T1001	1-429-309-21	TRANSFORMER, POWER	

****

ACCESSORIES & PACKING MATERIALS

****

*	4-979-431-01	CUSHION (BOTTOM)	
	4-979-371-01	COVER, BATTERY (for RM-SD25)	
	4-980-140-01	CUSHION (UPPER)	
	8-917-538-90	(RM-SD25)	

****

****

HARDWARE LIST

****

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-682-548-04	SCREW +BVTT 3X8 (S)	
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#5	7-621-770-87	SCREW +PTT 2.6X5 (S)	
#6	7-685-782-01	SCREW +PTT 2X5 (S)	
#7	7-621-773-86	SCRTEWTOTSU PTTWH 2.6X4	
#8	7-621-255-25	SCREW +PTT 2X4 (S)	
#9	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#10	7-621-255-15	SCREW +P 2X3	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

9-960-491-11

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

English
96A097022-1
Printed in Singapore
© 1996. 1
Published by Home A&V Products Div.
Quality Engineering Dept.

HCD-D170/G1100

SONY

SERVICE MANUAL

US Model
Canadian Model

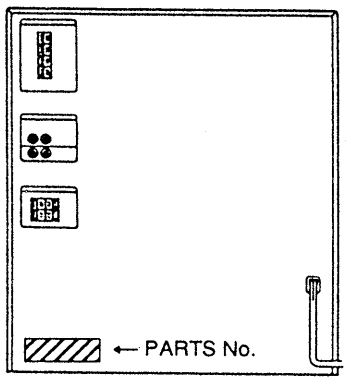
SUPPLEMENT-1

File this supplement with the service manual.

Subject : 1. CORRECTION
2. MODEL ADDITION (HCD-G1100 : Canadian model)
3. SERVICING NOTE ADDITION
4. ELECTRICAL ADJUSTMENTS CORRECTION
5. MAIN BOARD CHANGE
6. TCB BOARD CIRCUIT CHANGE

(ECN-TA505829/ENG-96006)

MODEL IDENTIFICATION
— BACK PANEL —



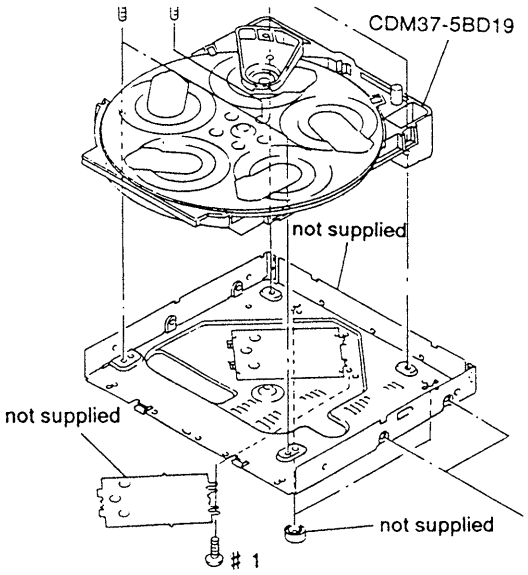
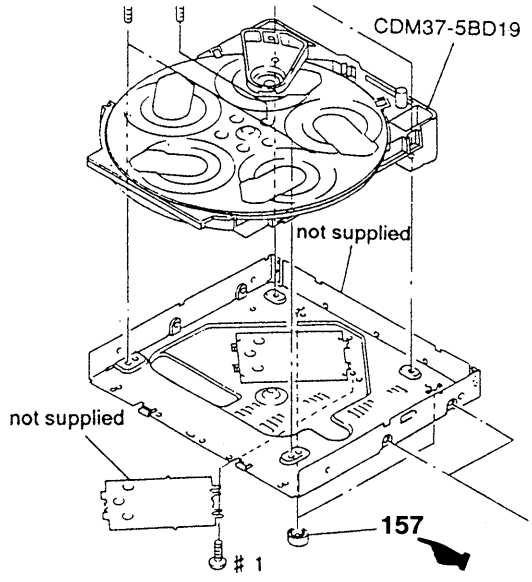
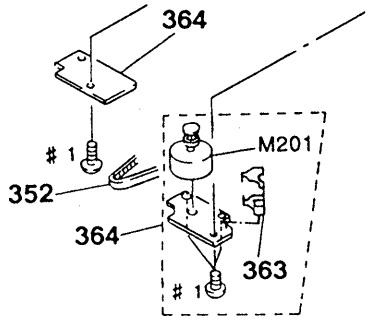
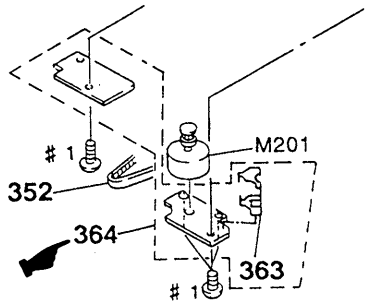
MODEL	PARTS No.
D170 : US model	4-978-187-0□
D170 : Canadian model	4-978-187-1□
G1100 : US model	4-978-187-8□
G1100 : Canadian model	4-978-187-9□

Note: The model of HCD-G1100 : Canadian is added, so please look at this.

1. CORRECTION

• Correct your service manual as shown below.

☛ : indicates corrected portion.

<table>
<tr><th>Page</th><th>INCORRECT</th><th>CORRECT</th></tr>
<tr><td>9</td><td>*** MECHANICAL ADJUSTMENTS ***
Torque Mesurement
<table>
<tr><th>Torque</th><th>Torque meter</th><th>Meter reading</th></tr>
<tr><td>FWD</td><td>CQ-102C</td><td>30 to 80 g • cm</td></tr>
<tr><td>FWD
back tension</td><td>CQ-102C</td><td>1.5 to 5.5 g • cm</td></tr>
<tr><td>FF/REW</td><td>CQ-201B</td><td>55 to 130 g • cm</td></tr>
<tr><td>FWD tension</td><td>CQ-403A</td><td>1 kg • cm or more</td></tr>
</table></td><td>*** MECHANICAL ADJUSTMENTS ***
Torque Measurement
<table>
<tr><th>Torque</th><th>Torque meter</th><th>Meter reading</th></tr>
<tr><td>FWD</td><td>CQ-102C</td><td>30 to 80 g • cm
(0.41 - 1.11 oz • inch)</td></tr>
<tr><td>FWD
back tension</td><td>CQ-102C</td><td>1.5 to 5.5 g • cm
(0.02 - 0.08 oz • inch)</td></tr>
<tr><td>FF/REW</td><td>CQ-201B</td><td>55 to 130 g • cm
(0.76 - 1.80 oz • inch)</td></tr>
<tr><td>FWD tension</td><td>CQ-403A</td><td>100 g or more
(3.53 oz or more)</td></tr>
</table></td></tr>
<tr><td>58</td><td>Ref. No. Part No. Description Remark
*** EXPLODED VIEWS ***
53 4-909-982-11 SCREW, TAPPING</td><td>Ref. No. Part No. Description Remark
*** EXPLODED VIEWS ***
53 4-957-577-01 SCREW PTP WH (2.6X8)</td></tr>
<tr><td>60</td><td>Ref. No. Part No. Description Remark
 
</td><td>Ref. No. Part No. Description Remark
157 X-4941-228-1 FOOT ASSY
 
</td></tr>
<tr><td>64</td><td> 
</td><td> 
</td></tr>
<tr><td>79</td><td>*** ACCESSORIES & PACKING MATERIALS ***
8-917-538-90 (RM-SD25)</td><td>*** ACCESSORIES & PACKING MATERIALS ***
8-917-538-90 REMOCON (RM-SD25)</td></tr>
</table>

2. MODEL ADDITION (HCD-G1100 : Canadian model)

• For detailed Canadian model, refer to US model.

Difference table

Page	HCD-G1100 : US model				HCD-G1100 : Canadian model			
57	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***	
	* 4	4-978-187-81	PANEL, BACK (G1100)		* 4	4-978-187-91	PANEL, BACK (G1100: CND)	

3. SERVICING NOTE ADDITION

[How to reset all]

Pressing the [TUNER/BAND] , [DISPLAY/DEMO] and [FILE 3] buttons simultaneously, all are reset and returned to as when the unit was shipped.

4. ELECTRICAL ADJUSTMENTS CORRECTION

• Correct your service manual as shown below.

☛ : indicates corrected portion.

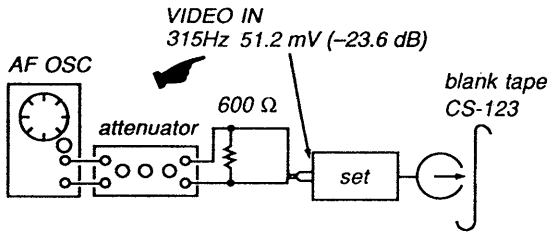
DECK SECTION

Record Bias Adjustment DECK B — Page 11 —

Record Level Adjustment DECK B — Page 11 —

Procedure:

1. Mode : record

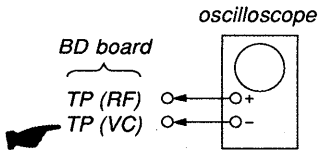


CD SECTION — Page 13 —

Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Adjust the focus bias adjustment when optical block is replaced.

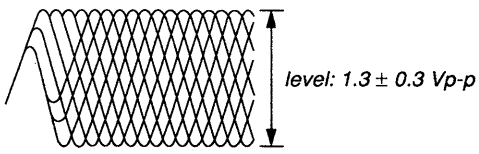
Focus Bias Adjustment



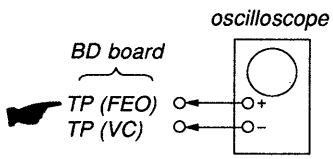
Procedure:

1. Connect oscilloscope to test point TP (RF).
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Adjust RV101 so that the waveform is clear.
   (Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.)
5. After adjustment, check the RF signal level.

• RF signal
VOLT/DIV: 200 mV
TIME/DIV: 500 nS



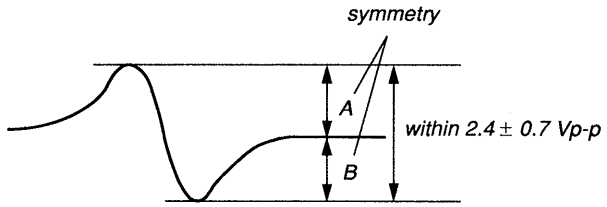
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and Ground by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2.4 ± 0.7 Vp-p.

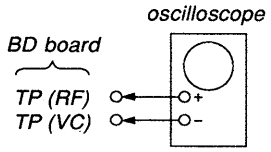
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

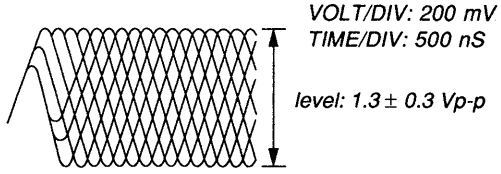


Procedure :

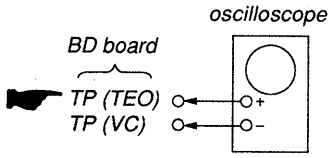
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform



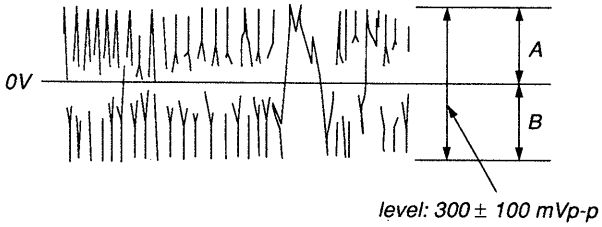
E-F Balance Check — Page 14 —



Procedure:

1. Connect test point TP703 (ADJ2) on Main board to Ground with a lead wire.
2. Connect oscilloscpe to test point TP (TEO)
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0Vdc, and check this level.

Traverse waveform



Specified level: • $\frac{A - B}{2 (A + B)}$ x 100 = less than ± 7%

• A + B = 300 ± 100 mVp-p

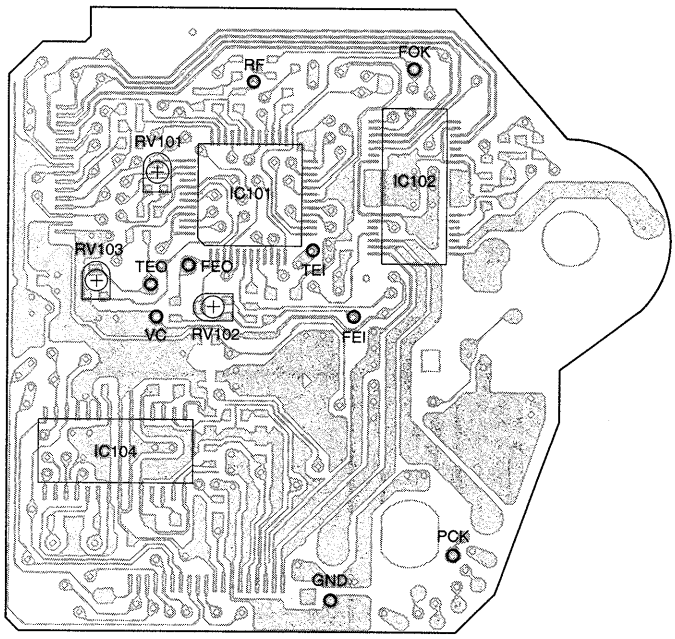
6. Remove the lead wire connected in step 1.

Focus/Tracking Gain Adjustment (RV102, RV103)

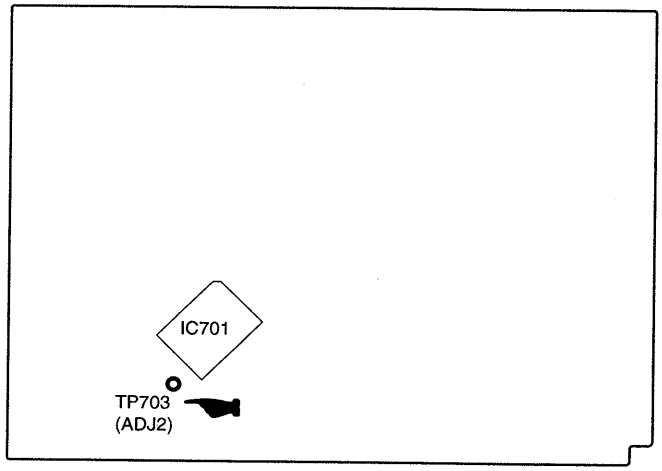
This gain has a margin, so even if it is slightly off.
There is no problem.
Therfore, do not perform this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location:

[BD BOARD] — Component Side —

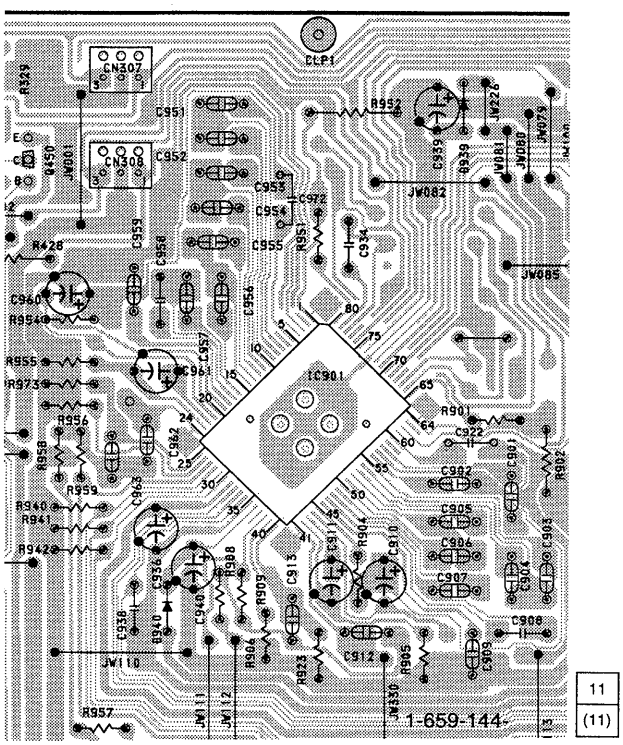
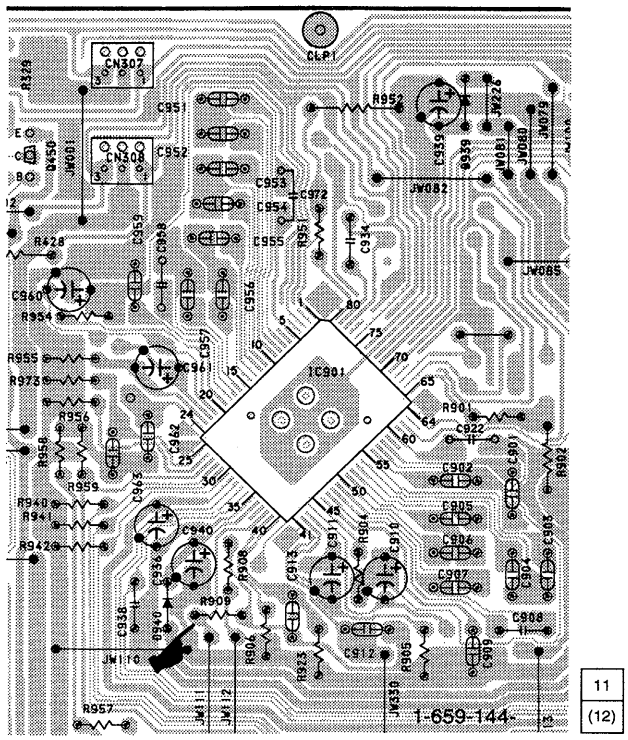


[MAIN BOARD] — Conductor Side —



5. MAIN BOARD CHANGE

☛ : indicates changed portion.

Page	FORMER	NEW
33	**[MAIN BOARD]** **Location A–D, 8–10** 	**[MAIN BOARD]** **Location A–D, 8–10** 

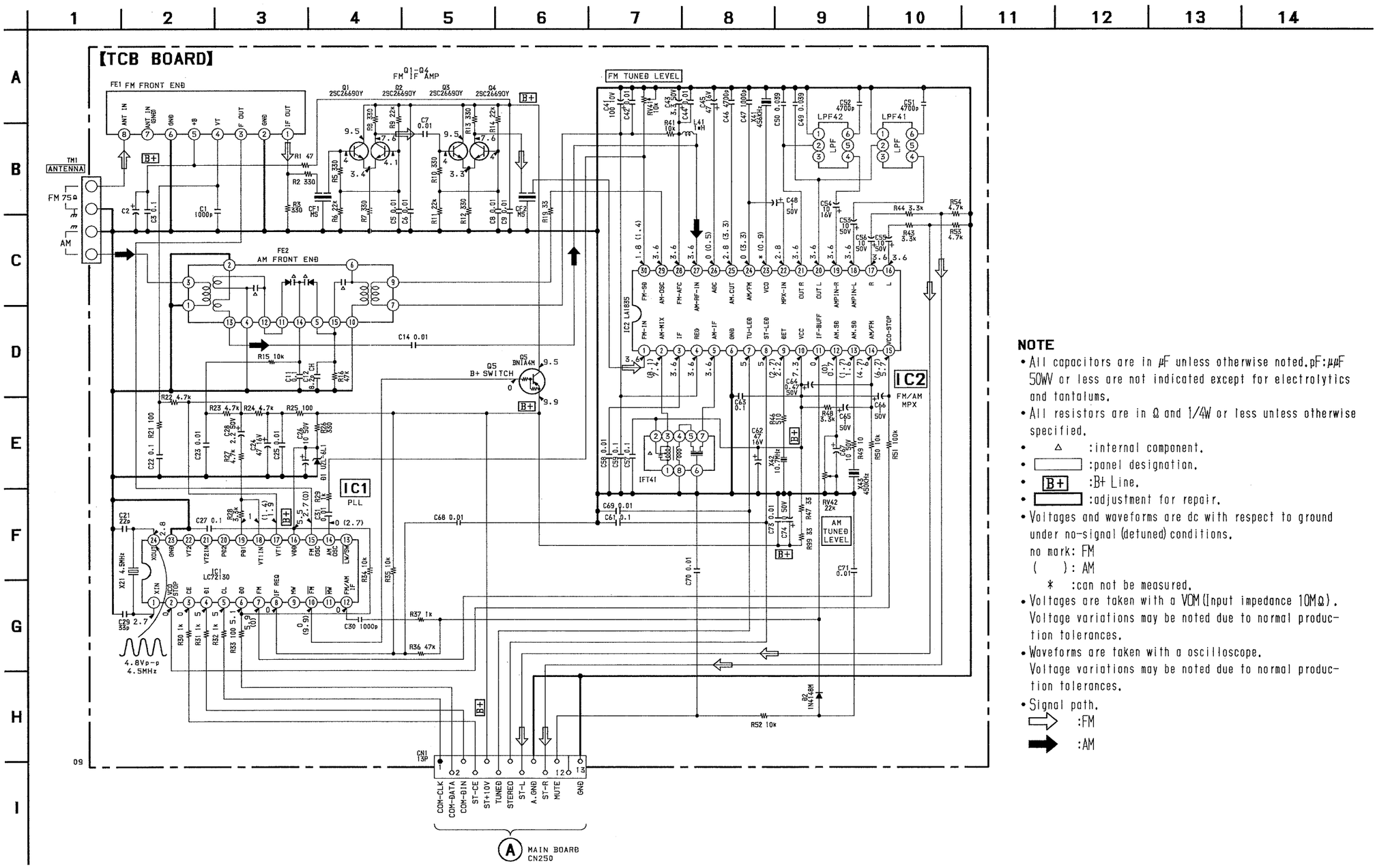
Note :

The pattern of board has changed, but parts for mounting have not changed.

6. TCB BOARD CIRCUIT CHANGE

• The TCB board was renewed with a change of Parts, please look at this.

SCHEMATIC DIAGRAM



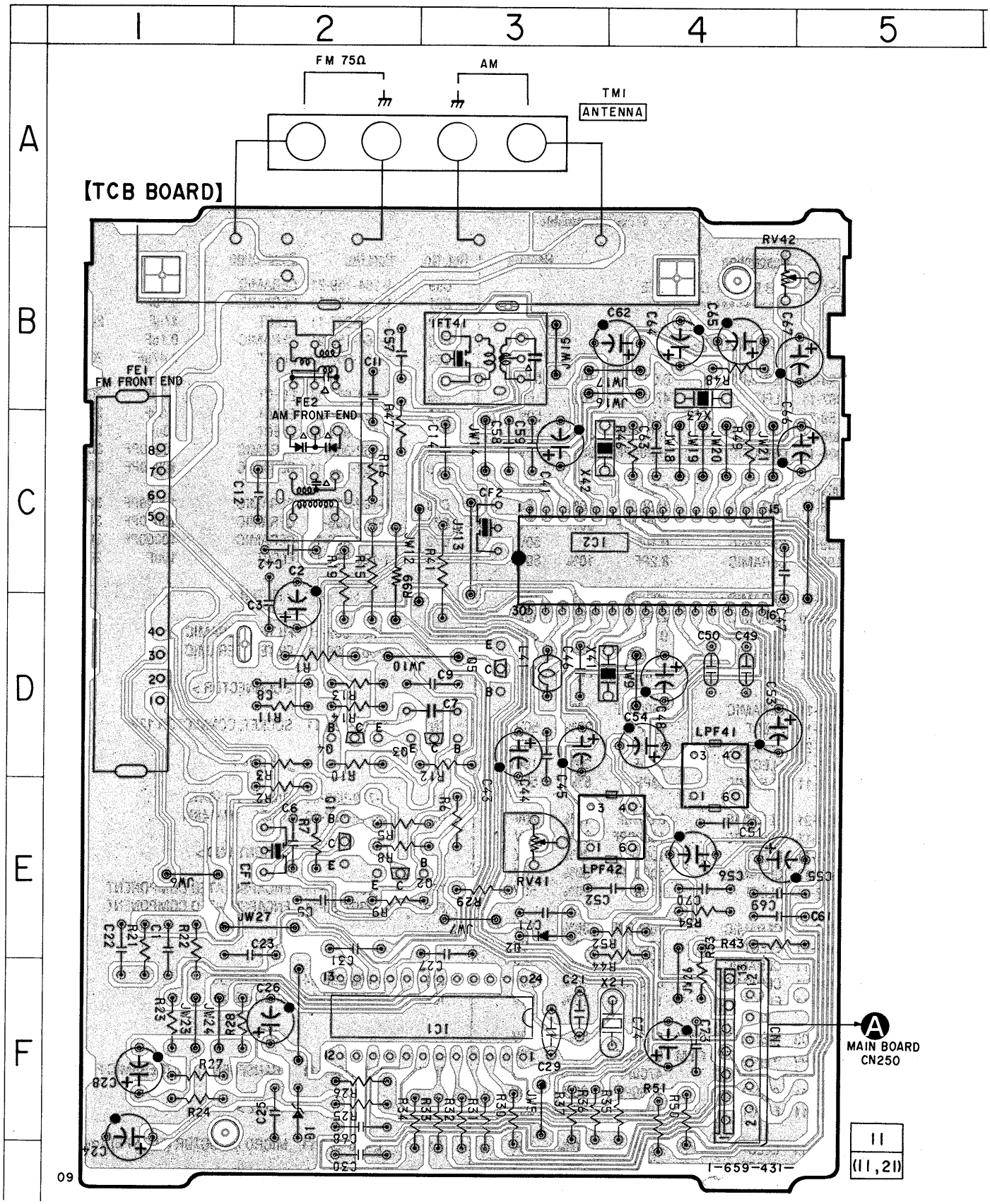
NOTE

- All capacitors are in μF unless noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
  ( ): AM
  * : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM

- **Semiconductor Location**

Ref. No.	Location
D1	F-2
D2	E-3
IC1	F-3
IC2	C-3
Q1	E-2
Q2	E-2
Q3	D-2
Q4	D-2
Q5	D-3

PRINTED WIRING BOARD



Note:

- ⟷ : parts extracted from the component side.
- △ : Internal component.
- ▒ : Pattern from the side which enable seeing.

TCB

ELECTRICAL PARTS LIST

Note:

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μ A..., uPA...: μ PA..., uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

Ref. No.	Part No.	Description			Remark
*	A-4303-510-A	TCB BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-162-294-31	CERAMIC	0.001uF	10%	50V
C2	1-126-967-11	ELECT	47uF	20%	16V
C3	1-164-159-21	CERAMIC	0.1uF		50V
C5	1-162-306-11	CERAMIC	10000PF	30%	16V
C6	1-162-306-11	CERAMIC	10000PF	30%	16V
C7	1-101-004-00	CERAMIC	0.01uF		50V
C8	1-162-306-11	CERAMIC	10000PF	30%	16V
C9	1-162-306-11	CERAMIC	10000PF	30%	16V
C11	1-164-159-21	CERAMIC	0.1uF		50V
C12	1-162-198-31	CERAMIC	8.2PF	10%	50V
C14	1-162-306-11	CERAMIC	10000PF	30%	16V
C21	1-102-959-00	CERAMIC	22PF	5%	50V
C22	1-164-159-21	CERAMIC	0.1uF		50V
C23	1-162-306-11	CERAMIC	10000PF	30%	16V
C24	1-126-967-11	ELECT	47uF	20%	16V
C25	1-162-306-11	CERAMIC	10000PF	30%	16V
C26	1-126-964-11	ELECT	10uF	20%	50V
C27	1-164-159-21	CERAMIC	0.1uF		50V
C28	1-124-925-11	ELECT	2.2uF	20%	100V
C29	1-102-518-11	CERAMIC	33PF	5%	50V
C30	1-162-294-31	CERAMIC	0.001uF	10%	50V
C31	1-162-306-11	CERAMIC	10000PF	30%	16V
C41	1-126-933-11	ELECT	100uF	20%	10V
C42	1-162-306-11	CERAMIC	10000PF	30%	16V
C43	1-126-962-11	ELECT	3.3uF	20%	50V
C44	1-162-306-11	CERAMIC	10000PF	30%	16V
C45	1-124-589-11	ELECT	47uF	20%	16V
C46	1-162-600-11	CERAMIC	4700PF	30%	16V
C47	1-162-294-31	CERAMIC	0.001uF	10%	50V
C48	1-126-160-11	ELECT	1uF	20%	50V
C49	1-136-160-00	METALIZED FILM	0.039uF	5%	50V
C50	1-136-160-00	METALIZED FILM	0.039uF	5%	50V
C51	1-162-600-11	CERAMIC	4700PF	30%	16V
C52	1-162-600-11	CERAMIC	4700PF	30%	16V
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-126-157-11	ELECT	10uF	20%	16V
C55	1-126-964-11	ELECT	10uF	20%	50V
C56	1-126-964-11	ELECT	10uF	20%	50V
C57	1-164-159-21	CERAMIC	0.1uF		50V F
C58	1-162-306-11	CERAMIC	10000PF	30%	16V
C59	1-164-159-21	CERAMIC	0.1uF		50V F
C61	1-164-159-21	CERAMIC	0.1uF		50V F
C62	1-126-967-11	ELECT	47uF	20%	16V
C63	1-164-159-21	CERAMIC	0.1uF		50V F
C64	1-124-902-00	ELECT	0.47uF	20%	50V
C65	1-124-903-11	ELECT	1.0uF	20%	50V
C66	1-124-903-11	ELECT	1.0uF	20%	50V
C67	1-126-964-11	ELECT	10uF	20%	50V
C68	1-162-306-11	CERAMIC	10000PF	30%	16V
C69	1-162-306-11	CERAMIC	10000PF	30%	16V
C70	1-162-306-11	CERAMIC	10000PF	30%	16V
C71	1-162-306-11	CERAMIC	10000PF	30%	16V
C73	1-162-306-11	CERAMIC	10000PF	30%	16V
C74	1-126-964-11	ELECT	10uF	20%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-832-11	SOCKET, CONNECTOR 13P			
		< DIODE >			
D1	8-719-933-33	DIODE HZS6A1L			
D2	8-719-987-63	DIODE 1N4148M			
		< FRONT-END >			
FE1	1-233-533-11	ENCAPSULATED COMPONENT			
FE2	1-239-260-11	ENCAPSULATED COMPONENT			
		< IC >			
IC1	8-759-288-54	IC LC72130			
IC2	8-759-176-03	IC LA1835			
		< IFT >			
IFT41	1-409-636-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< COIL >			
L41	1-410-119-11	MICRO INDUCTOR (EL TYPE) 1mH			
		< FILTER >			
LPF41	1-239-845-11	FILTER, LOW PASS			
LPF42	1-239-845-11	FILTER, LOW PASS			

TCB

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY				
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY				
Q3	8-729-230-99	TRANSISTOR 2SC2669-OY				
Q4	8-729-230-99	TRANSISTOR 2SC2669-OY				
Q5	8-729-422-57	TRANSISTOR UN4111				
		< RESISTOR >				
R1	1-249-401-11	CARBON	47	5%	1/4W	F
R2	1-249-411-11	CARBON	330	5%	1/4W	
R3	1-249-411-11	CARBON	330	5%	1/4W	
R5	1-249-411-11	CARBON	330	5%	1/4W	
R6	1-247-863-91	CARBON	22K	5%	1/4W	
R7	1-249-411-11	CARBON	330	5%	1/4W	
R8	1-249-411-11	CARBON	330	5%	1/4W	
R9	1-247-863-91	CARBON	22K	5%	1/4W	
R10	1-249-411-11	CARBON	330	5%	1/4W	
R11	1-247-863-91	CARBON	22K	5%	1/4W	
R12	1-249-411-11	CARBON	330	5%	1/4W	
R13	1-249-411-11	CARBON	330	5%	1/4W	
R14	1-247-863-91	CARBON	22K	5%	1/4W	
R15	1-249-429-11	CARBON	10K	5%	1/4W	
R16	1-249-437-11	CARBON	47K	5%	1/4W	
R19	1-249-399-11	CARBON	33	5%	1/4W	F
R21	1-247-807-31	CARBON	100	5%	1/4W	
R22	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R23	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R24	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R25	1-247-807-31	CARBON	100	5%	1/4W	
R26	1-249-411-11	CARBON	330	5%	1/4W	
R27	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R28	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R29	1-249-417-11	CARBON	1K	5%	1/4W	F
R30	1-249-417-11	CARBON	1K	5%	1/4W	F
R31	1-249-417-11	CARBON	1K	5%	1/4W	F
R32	1-249-417-11	CARBON	1K	5%	1/4W	F
R33	1-247-807-31	CARBON	100	5%	1/4W	
R34	1-249-429-11	CARBON	10K	5%	1/4W	
R35	1-249-429-11	CARBON	10K	5%	1/4W	
R36	1-249-437-11	CARBON	47K	5%	1/4W	
R37	1-249-417-11	CARBON	1K	5%	1/4W	F
R41	1-249-429-11	CARBON	10K	5%	1/4W	
R43	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R44	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R46	1-249-442-11	CARBON	510	5%	1/4W	
R47	1-249-399-11	CARBON	33	5%	1/4W	F
R48	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R49	1-249-393-11	CARBON	10	5%	1/4W	F
R50	1-249-429-11	CARBON	10K	5%	1/4W	
R51	1-249-441-11	CARBON	100K	5%	1/4W	
R52	1-249-429-11	CARBON	10K	5%	1/4W	
R53	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R54	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R99	1-249-399-11	CARBON	33K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV41	1-238-600-11	RES, ADJ, CARBON 10K				
RV42	1-238-601-11	RES, ADJ, CARBON 22K				
		< TERMINAL >				
TM1	1-537-238-21	TERMINAL BOARD (ANTENNA)				
		< VIBRATOR >				
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)				
X41	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)				
X42	1-760-220-11	FILTER, CERAMIC (10.7MHz)				
X43	1-527-981-00	FILTER, CERAMIC (450KHz)				

****

9-960-491-81

Sony Corporation
Home A&V Products Company

English
96F097022-1
Printed in Singapore
© 1996. 6
Published by Quality Engineering Dept.
(Shibaura)